

# Colorado Department of Public Health and Environment

# **OPERATING PERMIT**

University of Colorado at Boulder Power House

First Issued: January 1, 1999

Renewed: October 1, 2005 and October 1, 2010

## AIR POLLUTION CONTROL DIVISION COLORADO OPERATING PERMIT

FACILITY NAME: Power House OPERATING PERMIT NUMBER

FACILITY ID: 0130553

RENEWED: October 1, 2010 EXPIRATION DATE: October 1, 2015

MODIFICATIONS: See Appendix F of Permit

Issued in accordance with the provisions of Colorado Air Pollution Prevention and Control Act, 25-7-101 et seq. and applicable rules and regulations.

ISSUED TO: PLANT SITE LOCATION:

University of Colorado at Boulder University of Colorado at Boulder

Department of Facilities Management Power House

1060 18<sup>th</sup> Street, UCB 319 Corner of 18<sup>th</sup> Street and Colorado Avenue

Boulder, CO 80309 Boulder, CO 80309

**Boulder County** 

INFORMATION RELIED UPON

Operating Permit Renewal Application Received: October 6, 2009

And Additional Information Received: January 16, 2009, November 18, 2009

December 12, 2009, June 14-17, 2010, July 21, 2010

95OPBO059

Nature of Business: Steam and Electric Generation

Primary SIC: 4961

RESPONSIBLE OFFICIAL FACILITY CONTACT PERSON

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SUBMITTAL DEADLINES -

First Semi-Annual Monitoring Period: October 1, 2010 – December 31, 2010 Subsequent Semi-Annual Monitoring Periods: January 1 – June 30, July 1 – December 31

Semi-Annual Monitoring Reports: Due February 1, 2011 & August 1, 2011 & subsequent years

First Annual Compliance Period: October 1, 2010 – December 31, 2010

Subsequent Annual Compliance Periods: January 1 – December 31

Annual Compliance Certification: Due February 1, 2011 & subsequent years

Note that the Semi-Annual Monitoring Reports and Annual Compliance report must be received at the Division office by 5:00 p.m. on the due date. Postmarked dates will not be accepted for the purposes of determining the timely receipt of those reports.

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## **SECTION I - General Activities and Summary**

#### 1. **Permitted Activities**

1.1 The University of Colorado (CU) at Boulder consists of a Power House, a service building, a heating plant for a dormitory known as Williams Village, and miscellaneous insignificant activities around campus. The Power House generates electricity and steam with two 16.5 MW turbines that have the capability to fire natural gas or No. 2 fuel oil. The exhaust gasses from the turbines are routed through two heat recovery steam generators with each unit having its own stack. The Power House also has two standby boilers which can fire either natural gas or No. 2 fuel oil and serves the purpose of backup steam generators to the heat recovery steam generators. Each backup unit has its own stack. CU requested separate Operating Permits for the Power House and the heating plant for Williams Village. The service building is classified as an insignificant source of emissions.

The Power House is located at the southeast corner of 18th Street and Colorado Avenue, which is approximately in the center of the CU Boulder campus. This facility is located in the Denver Metro Area. The Denver Metro Area is classified as attainment/maintenance for particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and carbon monoxide (CO). Under that classification, all SIP-approved requirements for PM<sub>10</sub> and CO will continue to apply in order to prevent backsliding under the provisions of Section 110(1) of the Federal Clean Air Act. The Denver Metro Area is classified as nonattainment for ozone and is part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.1. There are no affected states within 50 miles of the plant. The Federal Class I designated areas within 100 kilometers of the plant are Rocky Mountain National Park, Rawah Wilderness Area, and Eagle's Nest Wilderness Area.

- 1.2 Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air pollutants from this facility in accordance with the requirements, limitations, and conditions of this permit.
- 1.3 The Operating Permit incorporates the applicable requirements contained in the underlying construction permits, and does not affect those applicable requirements, except as modified during review of the application or as modified subsequent to permit issuance using the modification procedures found in Regulation No. 3, Part C. These Part C procedures meet all applicable substantive New Source Review requirements of Part B. Any revisions made using the provisions of Regulation No. 3, Part C shall become new applicable requirements for purposes of this Operating Permit and shall survive reissuance. This permit incorporates the applicable requirements (except as noted in Section II) from the following construction permits: 89BO399.
- All conditions in this permit are enforceable by US Environmental Protection Agency, Colorado Air 1.4 Pollution Control Division (hereinafter Division) and its agents, and citizens unless otherwise specified. **State-only enforceable conditions are:** Permit Condition Number(s): Section IV - Conditions 3.d, 3.g (last paragraph), 14 & 18 (as noted); Section II – Conditions 2.5.1, and 3.4.1.

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1.5 All information gathered pursuant to the requirements of this permit is subject to the Recordkeeping and Reporting requirements listed under Condition 22 of the General Conditions in Section IV of this permit. Either electronic or hard copy records are acceptable.

## 2. Alternative Operating Scenarios

- 2.1 The permittee shall be allowed to make the following changes to its method of operation without applying for a revision of this permit.
  - 2.1.1 Units TU001, TU002, DU001, DU002, B003, and B004 have an alternative operating scenario to burn No. 2 fuel oil as a back-up fuel.
- 3. Non-Attainment New Source Review (NANSR) and Prevention of Significant Deterioration (PSD)
- 3.1 The following Operating Permits are associated with this facility for purposes of determining the applicability of the NANSR and PSD regulations: University of Colorado at Boulder, Williams Village (Operating Permit No. 96OPBO174).

This facility is categorized as a NANSR major stationary source (Potential to Emit of  $NO_x > 100$  Tons/Year). Future modifications at this facility resulting in a significant net emissions increase (see Reg 3, Part D, Sections II.A.26 and 42) for VOC or NOx or a modification which is major by itself (Potential to Emit of  $\geq 100$  TPY of either VOC or NOx) may result in the application of the NANSR review requirements.

This facility is categorized as a PSD major stationary source (Potential to Emit > 100 Tons/Year for  $NO_x$ , CO and  $SO_2$ ). Future modifications at this facility resulting in a significant net emissions increase (see Reg 3, Part D, Sections II.A.26 and 42) or a modification which is major by itself (Potential to Emit of  $\geq$  100 TPY) for any pollutant listed in Regulation No. 3, Part D, Section II.A.42 for which the area is in attainment or attainment/maintenance may result in the application of the PSD review requirements

## 4. Accidental Release Prevention Program (112(r))

4.1 Based upon the information provided by the applicant, this facility is not subject to the provisions of the Accidental Release Prevention Program (Section 112(r) of the Federal Clean Air Act).

## 5. Compliance Assurance Monitoring (CAM)

5.1 The following emission points at this facility use a control device to achieve compliance with an emission limitation or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. They are therefore subject to the provisions of the CAM program as set forth in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV:

None: At time of the first renewal, an operating permit existed which required CEMS to monitor controlled NOx emissions.

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## 6. Summary of Emission Units

6.1 The emissions units regulated by this permit are the following:

Facility Identifier	AIRS ID	Description	Pollution Control
TU001	003	Mitsubishi Turbine, Model MF-111AB, S/N: 0172, 189 MMBtu/hr, natural gas or No. 2 fuel oil.	Steam Injection
TU002	005	Mitsubishi Turbine, Model MF-111AB, S/N: 0173, 189 MMBtu/hr, natural gas or No. 2 fuel oil.	Steam Injection
DU001	004	Davis Duct Heater for TU001, 66.6 MMBtu/hr, natural gas or No. 2 fuel oil.	None
DU002	006	Coen Duct Heater for TU002, 66.6 MMBtu/hr, natural gas or No. 2 fuel oil.	None
B003	001	Combustion Engineering Boiler (tangential), Model VU-5E, S/N: 5970, 125.5 MMBtu/hr, natural gas or No. 2 fuel oil.	None
B004	002	Erie City Boiler, Model 2DR, S/N: 97294, 151 MMBtu/hr, natural gas or No. 2 fuel oil.	None

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## **SECTION II - Specific Permit Terms**

#### 1. **Facility-Wide Emissions: Power Plant**

	Permit Condition	Limitation	n Compliance Monitoring Emission Factor		ng
Parameter	Number		Emission Factor	Method	Interval
$NO_X$		Less than 250 ton/yr			
СО		90 ton/yr		CEM (Turbine/Duct	Monthly
VOC	1.1	62.6 ton/yr	C C 4:4: 1 1	Heater - NO <sub>x</sub> and CO)	
$SO_2$	1.1	56.7 ton/yr		Recordkeeping and Calculation PM <sub>10</sub>	
PM		24.2 ton/yr			PM <sub>10</sub> : Annually
$PM_{10}$					
Sulfur Content of Fuel	1.2	Fuel Oil: Not to exceed 0.3% by weight		Fuel analysis	Delivery
Heating Value of Fuel	1.3			Fuel Analysis	As Defined Below
CEMS Availability	1.4	No less than 90% of the time		Recordkeeping	Hourly
CEMS Accuracy	1.5			CGA	Quarterly

1.1 Emissions of nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM) from all units shall not exceed the limitations stated above (Colorado Construction Permit 89BO399). Compliance with the annual limitations shall be demonstrated on a monthly basis using a rolling twelve-month total. Monthly emissions from all emission units shall be summed to determine a rolling twelve-month total of facility-wide emissions. Each month, a new twelve-month total shall be calculated using the previous twelve months data and made available no later than the last working day of the following month. Records of the calculations shall be maintained for Division inspection upon request.

The emission factors and methods below have been approved by the Division to determine emissions.

1.1.1 Emissions from Turbines TU001 and TU002 and Duct Heaters DU001 and DU002

The following emission factors for turbines and duct heaters have been approved by the Division to determine emissions and shall be used as described below:

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			DUCT HEATI Emission Factor	ER ors (lb/MMBtu)
Pollutant	Natural Gas	No. 2 Fuel Oil	Natural Gas	No. 2 Fuel Oil
$SO_2$	0.0034	1.01(S)	0.0006	1.01(S)
VOC	0.0021	0.0004	0.0055	0.0014
PM	0.0066	0.0120	0.0076	0.0236
$PM_{10}$	0.0066	0.0120	0.0076	0.0236
$NO_x$	0.32	0.88	0.100	0.143
CO	0.082	0.0033	0.084	0.036

S = Weight percent of sulfur content in fuel oil

Source (Turbines): AP-42 Tables 3.1-1 & 3.1-2a (April, 2000)

Source (Heaters, Natural gas): AP-42 Table 1.4-2 (July 1998), assuming a fuel heat value of 1,000 btu/scf Source (Heaters, No. 2 Oil): AP-42 Tables 1.3-1, 1.3-2, 1.3-3 and 1.3-6 (Sept 1998), assuming a fuel heat value of 140,000 btu/gal

<u>SO<sub>2</sub>, PM and VOC Calculations</u> – Monthly fuel use shall be used to calculate emissions on a monthly basis from each duct heater and from each turbine using the emission factors listed above and the following equation:

$$\frac{lb}{month} = Compliance \ EF\left(\frac{lb}{MMBtu}\right) \times Monthly \ Recorded \ Fuel \ Use\left(\frac{MMscf \ or \ MMgal}{month}\right) \times Heat \ Content \ of \ Fuel \left(\frac{MMBtu}{MMscf \ or \ MMgal}\right)$$

<u>PM<sub>10</sub> Calculations</u> - Annual emissions for the purposes of APEN reporting and the payment of annual fees shall be calculated using the above emission factors and the fuel use from each turbine and each duct heater using the following equation:

$$\frac{lb}{year} = Compliance \ EF\left(\frac{lb}{MMBtu}\right) \times Annual \ Recorded \ Fuel \ Use\left(\frac{MMscf \ or \ MMgal}{year}\right) \times Heat \ Content \ of \ Fuel \left(\frac{MMBtu}{MMscf \ or \ MMgal}\right)$$

 $\underline{NO_x}$  and  $\underline{CO}$  Calculations – Monthly emissions from the turbines and duct heaters shall be determined using the CEMS required by Condition 6, and by calculations based on steam-to-fuel ratios and emission factors. Emissions shall be determined as follows based on the following operational scenarios:

Operating Scenario	Turbine Emissions – NO <sub>x</sub> & CO	Duct Heater Emissions – NO <sub>x</sub> & CO	
Normal Operation: Turbine & Duct Heater Operational, CEMS available	CEMS monitoring (for each combined turbine/duct heater stack)		
Turbine and Duct Heater Operational, CEMS unavailable	Calculate emissions during CEMS unavailability using data replacement based on steam-to-fuel ratios		
Turbine not in operation, Duct Heater operational, CEMS unavailable		Calculate emissions during CEMS unavailability using approved Heater emission factors and average hourly fuel use	
Turbine not in operation, Duct Heater operational, CEMS available		CEMS monitoring	

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Operating Scenario	Turbine Emissions – NO <sub>x</sub> & CO	<b>Duct Heater Emissions – NO<sub>x</sub> &amp; CO</b>
Simple Cycle Operation	Calculate emissions during CEMS	
(steam is not available),	unavailability using approved	
CEMS unavailable	Turbine emission factors and average	
	hourly fuel use	

Emission Calculations Based on Steam-to-Fuel Ratios: In the event that the CEMS is unavailable and the turbines are running, emissions of NOx and CO shall be estimated for purposes of rolling twelve-month totals using average hourly water-to-fuel ratios (Colorado Construction Permit 89BO399). For each hour of CEMS downtime the average hourly steam-to-fuel ratio shall be matched to an average hourly steam-to-fuel ratio from data recorded in the previous 4 weeks and the corresponding CEMS emissions for NOx and CO shall be used as an estimate for that hour. Any fraction of an hour of CEMS unavailability shall be treated as a full hour for purposes of estimating emissions. The emissions estimated during CEMS unavailability shall be recorded, added to the rolling twelve-month total of emissions and made available no later than the last working day of the following month.

Emission Calculations Based on Emission Factors: In the event that the CEMS is unavailable and steam is not available, the average hourly fuel consumption shall be used to calculate emissions for purposes of estimating rolling twelve-month emissions, from each turbine or duct heater using the emission factors listed above and the following equation:

$$lbs = Compliance \ EF\left(\frac{lb}{MMBtu}\right) \times Avg \ hourly \ fuel \ use\left(\frac{MMscf \ or \ MMgal}{hr}\right) \times Hrs \ CEMS \ unavailable \ \times \ Heat \ Content \ of \ Fuel \left(\frac{MMBtu}{MMscf \ or \ MMgal}\right)$$

## 1.1.2 Emissions from Boilers B003 and B004

The following emission factors for boilers have been approved by the Division to determine emissions and shall be used as described below:

	BOILER		
	Emission Factors (lb/MMBtu)		
Pollutant	Natural Gas No. 2 Fuel Oil		
$SO_2$	0.0006	1.12(S)	
VOC	0.0055	0.0014	
PM	0.0076	0.0236	
$PM_{10}$	0.0076	0.0236	
$NO_x$	0.28	0.171	
CO	0.084	0.036	

S = Weight percent of sulfur content in fuel oil

Source: AP-42 Tables 1.4-1 & 1.4-2 (July 1998), assuming a fuel heat value of 1,000 btu/scf (natural gas) Source: AP-42 Tables 1.3-1 & 1.3-3 (Sept 1998), assuming a fuel heat value of 140,000 btu/gal (No. 2 oil)

<u>SO<sub>2</sub>, VOC, PM, NO<sub>x</sub> and CO Emission Calculations</u> – Monthly fuel use shall be used to calculate emissions on a monthly basis from each boiler using the emission factors listed above and the following equation:

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$$\frac{lb}{month} = Compliance \ EF\left(\frac{lb}{MMBtu}\right) \times Monthly \ Recorded \ Fuel \ Use\left(\frac{MMscf \ or \ MMgal}{month}\right) \times Heat \ Content \ of \ Fuel \left(\frac{MMBtu}{MMscf \ or \ MMgal}\right)$$

 $\underline{PM_{10}}$  Calculations - Annual emissions for the purposes of APEN reporting and the payment of annual fees shall be calculated using the above emission factors and the fuel use from each boiler using the following equation:

$$\frac{\text{lb}}{\text{year}} = \text{Compliance EF}\left(\frac{\text{lb}}{\text{MMBtu}}\right) \times \text{Annual Recorded Fuel Use}\left(\frac{\text{MMscf or MMgal}}{\text{year}}\right) \times \text{Heat Content of Fuel}\left(\frac{\text{MMBtu}}{\text{MMscf or MMgal}}\right)$$

- 1.2 The sulfur content of the No. 2 fuel oil shall not exceed 0.3% by weight (Colorado Construction Permit 89BO399, as modified under the provisions of Section I, Condition 1.3). Sulfur content of the fuel oil shall be monitored and recorded by using one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2 and 2.2.4.3 of appendix D to 40 CFR Part 75 (i.e., flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank). (40 CFR 60.334(i)(1)). A minimum of three fuel samples shall be collected and analyzed for total sulfur content using the appropriate ASTM methods (40 CFR 60.335(b)(10)(i)). The fuel analyses required by this condition may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency (40 CFR 60.335(b)(11)). Records of the sulfur content shall be maintained for Division inspection upon request.
- 1.3 The heat content of the natural gas used to fuel the turbines, duct heaters and boilers shall be verified semi-annually in accordance with approved ASTM methods or equivalent, if approved in advance by the Division. The heat content of the natural gas shall be based on the high gross dry real heating value of the fuel. Calculations of emissions required under Condition 1.1 shall be made using the heat content derived from the most recent required analysis. This analysis may be performed by the fuel vendor. Records of the heat content shall be maintained for Division inspection upon request.
- 1.4 The CEMS shall be available and operating no less than 90% of the time (Colorado Construction Permit 89BO399). The source shall record and keep a twelve-month rolling total of downtime hours which shall be available no later than the last working day of the following month. The records shall be made available for Division inspection upon request.
- 1.5 The data accuracy of the CEMS shall be assessed with daily calibrations, a Cylinder Gas Audit (CGA) on a quarterly basis, and a Relative Accuracy Test Audit (RATA) on an annual basis per 40 CFR Part 60, Appendix F. A CGA is not required for any quarter that a RATA is performed.

Renewed: October 1, 2005 & October 1, 2010

Last Revised: October 26, 2011

First Issued: January 1, 1999

## 2. TU001 and TU002 – Two Mitsubishi Turbines, each rated at 189 MMBtu/hr

## Limitations apply to each turbine unless otherwise stated below

	Permit	Limitation	Monitoring	
Parameter	Condition Number		Method	Interval
$NO_X$	2.1.1	For each turbine (simple cycle), and for each turbine/duct heater combination (combined cycle): 75 ppmvd @ 15% O <sub>2</sub> on a 4-hr rolling average	CEMS	Continuously
Exemption from NO <sub>x</sub> Limit Due to Ice Fog	2.1.2	Applies only when Ice Fog is deemed a traffic hazard	As determined by Owner/Operator	As Necessary
PM Standard	2.2	For each turbine (simple cycle):  0.13 lb/MMBtu  For each turbine/duct heater combination (combined cycle):  0.14 lb/MMBtu	Fuel Restriction	Only Natural Gas or No. 2 Fuel Oil is Used as Fuel
Steam Injection Rate/Steam-Fuel Ratio	2.3		Recordkeeping and Calculation	Hourly
Fuel Use	2.4	For both turbines combined: Natural Gas: 2775 MMscf/yr No. 2 Fuel Oil: 1.43 MMGal/yr	Fuel Meter and Recordkeeping	Hourly and Each delivery
NSPS Subpart A General Provisions	7	Applies to each turbine (simple cycle mode) and to each turbine/duct heater combination (combined cycle)	See Condition 7	
Opacity	2.5	State Only Requirement: Not to Exceed 20%  Not to Exceed 20% Except as Provided for Below  For Certain Operational Activities - Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 Consecutive Minutes		
$\mathrm{SO}_2$	2.6	Each turbine: 150 ppmvd @ 15% O2 OR Use of Fuel Which Contains Less than 0.8 Weight % Sulfur Each turbine: 0.35 lb/MMBtu	Fuel Restriction	See Condition 2.6
Continuous Emission System Monitoring (CEMS) Requirements	2.7		See Cor	ndition 2.7

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	Permit Condition	Limitation	Mon	itoring
Parameter	Number		Method	Interval
NSPS General Provisions	7		See Co	ondition 7

In addition to the facility wide limits set forth in Section II, Condition 1, the following applies to these units:

- 2.1 These turbines are subject to 40 CFR Part 60 Subpart GG Standards of Performance for Stationary Gas Turbines, as adopted by reference in Colorado Regulation No. 6, Part A. The following limits and requirements apply to **each turbine** when it is operating in simple cycle mode and to **each turbine/duct heater combination** when the turbine is operating in combined cycle mode:
  - 2.1.1 No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain nitrogen oxides in excess of 75 parts per million by volume at 15 percent oxygen and on a dry basis. (§60.332(a)(1)).
  - 2.1.2 Stationary gas turbines using water or steam injection for control of  $NO_x$  emissions are exempt from the limit listed in Condition 2.1.1 when ice fog is deemed a traffic hazard by the owner or operator of the gas turbine. (\$60.332(f)).
  - 2.1.3 The CEMS required by Condition 2.7 of this permit shall be used to monitor compliance with the NO<sub>x</sub> emission limit in Condition 2.1.1.
- 2.2 PM emissions are subject to the following requirements:
  - 2.2.1 Particulate Matter (PM) emissions from **each turbine** (simple cycle mode) shall not exceed the above limitation (Colorado Regulation No. 1, Section III.A.1). In the absence of credible evidence to the contrary, compliance with the particulate matter emission limit is presumed since only natural gas or No. 2 Fuel Oil is permitted to be used as fuel in the turbines.

Note that the numeric PM standards for the turbines were determined using the design heat input for each turbine(189 MMBtu/hr) in the following equation:

$$PE = 0.5 \ x \ (FI)^{-0.26} \ lb/MMBtu$$
 Where 
$$FI = Fuel \ Input \ in \ MMBtu/hr$$

2.2.2 Particulate Matter (PM) emissions from **each turbine/duct heater combination** (combined cycle mode) shall not exceed the above limitation (Colorado Regulation No. 1, Section III.A.1). In the absence of credible evidence to the contrary, compliance with the particulate matter emission limit is presumed since only natural gas or No. 2 Fuel Oil is permitted to be used as fuel in the turbines and the duct heaters.

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Note that the numeric PM standards for combined cycle operation (turbine/duct heater) were determined using the design heat input for the turbine (189 mmBtu/hr) and duct heater (66.6 mmBtu) in the following equation:

$$PE(Combined Cycle) = \frac{PE_T \times FI_T + PE_{DB} \times FI_{DB}}{FI_T + FI_T}$$

Where  $\begin{aligned} PE_T &= 0.5 \ x \ (FI)^{\text{-0.26}} \ lb/MMBtu \\ PE_{DB} &= 0.5 \ x \ (FI)^{\text{-0.26}} \ lb/MMBtu \\ FI &= Fuel \ Input \ in \ MMBtu/hr \end{aligned}$ 

- 2.3 The average steam injection rate and the fuel consumption rate for each hour shall be measured and recorded (Colorado Construction Permit 89BO399, as modified under the provisions of Section I, Condition 1.3). The average hourly steam injection rate and fuel consumption rate shall be used to calculate the average steam-to-fuel ratio for each hour and made available no later than the last working day of the following month. The average hourly steam-to-fuel ratio shall be used to calculate emissions as required under Condition 1.1 Records of the steam injection rate shall be maintained for Division inspection upon request.
- 2.4 Fuel consumption for both turbines shall be measured, recorded, and not exceed the limitations stated above (Colorado Construction Permit 89BO399). Fuel use shall be measured and averaged over an hour for each hour. A twelve-month rolling total of fuel use shall be maintained to determine compliance with the annual limitation and made available no later than the last working day of the following month. Fuel consumption shall be used to calculate emissions as required under Condition 1.1. Records of fuel use shall be maintained for Division inspection upon request.
- 2.5 The turbines are subject to the following opacity requirements:
  - 2.5.1 **State-Only Requirement**: No owner or operator may discharge, or cause the discharge into the atmosphere of any particulate matter which is greater than 20% opacity (Colorado Regulation No. 6, Part B, Section II.C.3). This opacity standard applies to **each turbine**.

This opacity standard applies at all times except during periods of startup, shutdown and malfunction (40 CFR Part 60 Subpart A § 60.11(c), as adopted by reference in Colorado Regulation No. 6, Part B, Section I.A).

Note that this opacity requirement is more stringent than the opacity requirement in Condition 2.5.3 during periods of building of a new fire, cleaning of fire boxes, soot blowing, process modifications and adjustment or occasional cleaning of control equipment.

Compliance with this opacity standard shall be monitored as follows:

2.5.1.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 2.5.1 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.2.3

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(except during startup) and the visible emission observations conducted under the requirements of Condition 5.2.2 meet the 20% opacity limit.

When Burning Natural Gas as Fuel: In the absence of credible evidence to the contrary, compliance with the opacity standard in Condition 2.5.1 shall be presumed during periods that only natural gas is used as fuel in the turbines.

2.5.2 Except as provided for in Condition 2.5.3 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity. This standard is based on 24 consecutive opacity readings taken at 15-second intervals for six minutes. The approved reference test method for visible emissions measurement on which these standards are based is EPA Method 9 (40 CFR Part 60, Appendix A (July, 1992)) in all subsections of Section II.A of Regulation No. 1 (Colorado Regulation No. 1, Section II.A.1). This opacity standard applies to **each turbine**.

Compliance with this opacity standard shall be monitored as follows:

- 2.5.2.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 2.5.2 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.2.2 meet the 20% opacity limit.
- 2.5.2.2 When Burning Natural Gas as Fuel: In the absence of credible evidence to the contrary, compliance with the opacity standard in Condition 2.5.2 shall be presumed during periods that only natural gas is used as fuel in the turbines.
- 2.5.3 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from the building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to **each turbine.**

Compliance with this opacity standard shall be monitored as follows:

- 2.5.3.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 2.5.3 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.2.3 meet the 30% opacity limit.
- 2.5.3.2 When Burning Natural Gas as Fuel: In the absence of credible evidence to the contrary, compliance with the opacity standard in Condition 2.5.3 shall be presumed during periods that only natural gas is used as fuel in the turbines.
- 2.5.4 Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, exceedance of the opacity limit shall be considered to exist from the time a Method 9

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reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit.

- Sulfur Dioxide (SO<sub>2</sub>) emissions shall not exceed the following limitations during periods of natural gas 2.6 combustion:
  - **Each turbine** shall meet one of the following requirements:
    - 2.6.1.1 Sulfur Dioxide (SO<sub>2</sub>) emissions from the turbine shall not exceed 150 ppmvd at 15%  $O_2$

OR

2.6.1.2 No fuel, which contains sulfur in excess of 0.8 percent by weight, shall be used in this combustion turbine (40 CFR Part 60 Subpart GG §§ 60.333(a) & (b), as adopted by reference in Colorado Regulation No. 6, Part A).

> In the absence of credible evidence to the contrary, compliance with the requirements of Condition 2.6.1 is presumed during periods that only natural gas is used as fuel. The permittee shall maintain records demonstrating that the natural gas burned meets the definition of natural gas in 40 CFR Part 60.331(u) (20.0 grains or less of total sulfur per 100 standard cubic feet). These records shall be made available to the Division upon request. The owner or operator shall use one of the following sources of information to make the required demonstration (§60.334(h)(3)):

- The gas quality characteristics in a current, valid purchase contract, tariff sheet a. or transportation contact for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less; or
- b. Representative fuel sampling data which show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. Fuel sampling shall be completed at least annually on a calendar basis, and when the fuel supply source changes (40 CFR Part 75, Appendix D, Section 2.3.2.4(e)).
- Sulfur Dioxide (SO<sub>2</sub>) emissions from **each turbine** shall not exceed 0.35 lbs/MMBtu, on a 3-hr rolling average (Colorado Regulation No. 1, Section VI.B.4.c.(ii) and VI.B.2). In the absence of credible evidence to the contrary, compliance with the SO<sub>2</sub> limitations is presumed during periods of natural gas combustion since the natural gas must meet the requirements in Condition 2.6.1 to be permitted to be used as fuel in each turbine.
- 2.7 The turbine/duct heater exhaust stacks shall be equipped with a continuous emission monitoring system (CEMS) to continuously measure and record:
  - 2.7.1 Concentration of Nitrogen Oxides in the exhaust, hourly average, ppmvd, @ 15% Oxygen
  - 2.7.2 Emission rate of Nitrogen Oxides, tons per month

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- 2.7.3 Emissions of Carbon Monoxide, lbs/hr and tons per month
- 2.7.4 Concentration of oxygen, hourly average, percent

The continuous emission monitoring system shall meet the requirements in Condition 6 of this permit.

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#### 3. DU001 and DU002 - Two Duct Heaters, each rated at 66.6 MMBtu/hr each Limitations apply to each duct heater unless otherwise stated below

	Permit	Limitation	Monitoring	
Parameter	Condition Number		Method	Interval
NO <sub>x</sub>	3.1	For each turbine/duct heater combination (combined cycle): 75 ppmvd @ 15% O <sub>2</sub> on a 4-hr rolling average	See Condition 3.1	
PM Standard	3.2	For each duct heater: 0.17 lb/MMBtu	Fuel Restriction	Only Natural Gas or No. 2 Fuel Oil is Used as Fuel
Fuel Use	3.3	Total Fuel Use for DU001 and DU002:  Natural gas: 400 MMscf/yr No. 2 Fuel Oil: 288,000 gal/yr	Fuel Meter	Hourly Average
Opacity		State Only Requirement: Not to Exceed 20%  Not to Exceed 20% Except as Provided for Below		
	3.4	For Certain Operational Activities - Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 Consecutive Minutes		
NSPS Subpart Dc	3.5	See Condition 3.5		
Excess Emission Reporting Requirements	3.5.3 and 3.5.4	Applies to each duct heater		ns 3.5.3 and 3.5.4
NSPS Subpart A General Provisions	7		See Co	ondition 7

In addition to the facility wide limits set forth in Section II, Condition 1, the following applies to these units:

- 3.1 The turbines are subject to 40 CFR Part 60 Subpart GG – Standards of Performance for Stationary Gas Turbines, as adopted by reference in Colorado Regulation No. 6, Part A. The applicable limits and requirements of Subpart GG apply to each turbine/duct heater combination when both the turbine and duct heater are in operation (combined cycle mode). The applicable Subpart GG limits and requirements for each turbine/duct heater combination are listed in Condition 2.1.
- Particulate Matter (PM) emissions from each duct heater (during periods that the associated turbine is 3.2 not in operation) shall not exceed the above limitation (Colorado Regulation No. 1, Section III.A.1). In

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the absence of credible evidence to the contrary, compliance with the particulate matter emission limit is presumed since only natural gas or No. 2 Fuel Oil are permitted to be used as fuel in the duct heaters.

Note that the numeric PM standards for the duct heaters were determined using the design heat input for each duct heater (66.6 mmBtu) in the following equation:

 $PE = 0.5 \ x \ (FI)^{-0.26} \ lb/MMBtu$  Where  $FI = Fuel \ Input \ in \ MMBtu/hr$ 

- 3.3 Fuel consumption for **both duct heaters combined** shall be measured, recorded, and not exceed the limitations stated above (Colorado Construction Permit 89BO399). Fuel use shall be measured and averaged over an hour for each hour. A twelve-month rolling total of fuel use shall be maintained to determine compliance with the annual limitation and made available no later than the last working day of the following month. Records of fuel use shall be maintained for Division inspection upon request.
- 3.4 The duct heaters are subject to the following opacity requirements:
  - 3.4.1 **State-Only Requirement**: No owner or operator may discharge, or cause the discharge into the atmosphere of any particulate matter which is greater than 20% opacity. This standard is based on 24 consecutive opacity readings taken at 15-second intervals for six minutes. The approved reference test method for visible emissions measurement on which these standards are based is EPA Method 9 (40 CFR Part 60, Appendix A (July, 1992)) in all subsections of Section II.A of Regulation No. 1 (Colorado Regulation No. 6, Part B, Section II.C.3). This opacity standard applies to each duct heater.

This opacity standard applies at all times except during periods of startup, shutdown and malfunction (40 CFR Part 60 Subpart A § 60.11(c), as adopted by reference in Colorado Regulation No. 6, Part B, Section I.A).

Note that this opacity requirement is more stringent than the opacity requirement in Condition 3.4.3 during periods of building of a new fire, cleaning of fire boxes, soot blowing, process modifications and adjustment or occasional cleaning of control equipment.

Compliance with this opacity standard shall be monitored as follows:

- 3.4.1.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 3.4.1 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.2.2 (except during startup) and the visible emission observations conducted under the requirements of Condition 5.2.2 meet the 20% opacity limit.
- 3.4.1.2 When Burning Natural Gas as Fuel: In the absence of credible evidence to the contrary, compliance with the opacity standard in Condition 3.4.1 shall be presumed during periods that only natural gas is used as fuel in the duct heaters.

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3.4.2 Except as provided for in Condition 3.4.3 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity (Colorado Regulation No. 1, Section II.A.1). This opacity standard applies to each duct heater.

Compliance with this opacity standard shall be monitored as follows:

- 3.4.2.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 3.4.2 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.2.2 meet the 20% opacity limit.
- 3.4.2.2 When Burning Natural Gas as Fuel: In the absence of credible evidence to the contrary, compliance with the opacity standard in Condition 3.4.2 shall be presumed during periods that only natural gas is used as fuel in the duct heaters.
- 3.4.3 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from the building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to each duct heater.

Compliance with this opacity standard shall be monitored as follows:

- 3.4.3.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 3.4.3 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.2.3 meet the 30% opacity limit.
- 3.4.3.2 When Burning Natural Gas as Fuel: In the absence of credible evidence to the contrary, compliance with the opacity standard in Condition 3.4.3 shall be presumed during periods that only natural gas is used as fuel in the duct heaters.
- 3.4.4 Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, exceedance of the opacity limit shall be considered to exist from the time a Method 9 reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit.
- 3.5 The duct heaters are subject to 40 CFR Part 60 Subpart Dc Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, as adopted by reference in Colorado Regulation No. 6, Part A. These requirements apply to each duct heater.
  - 3.5.1 No owner or operator of an affected facility that combusts oil and has a heat input capacity of 30 million Btu/hr or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. (§60.43c(c))

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First Issued: January 1, 1999 Renewed: October 1, 2005 & October 1, 2010 Last Revised: October 26, 2011 3.5.2 The opacity standard under this section applies at all times, except during periods of startup, shutdown, or malfunction. (§60.43c(d))

Compliance with this opacity standard shall be monitored as follows:

3.5.2.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 3.5.1 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.2.2 while the duct heaters are in operation and combusting No. 2 Fuel Oil meet the 20 % opacity limit (except for one 6-minute period per hour of not more than 27% opacity).

## Reporting and Recordkeeping Requirements

- 3.5.3 In addition to the applicable requirements in §60.7, the owner or operator of an affected facility subject to the opacity limits in Condition 3.5.1 shall submit semi-annual excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain the following records (§60.48c(c)):
  - 3.5.3.1 For each performance test conducted using Method 9 of appendix A–4 of 40 CFR Part 60, the owner or operator shall keep the records including the following information:
    - a. Dates and time intervals of all opacity observation periods;
    - b. Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and
    - c. Copies of all visible emission observer opacity field data sheets;
- 3.5.4 The owner or operator of each affected facility subject to fuel oil sulfur limits shall submit reports to the Administrator. (§60.48c(d)). Semi-annual reports shall include, but not be limited to, the following:
  - 3.5.4.1 A fuel certification that includes the name of the oil supplier, a statement from the oil supplier that the oil complies with the specifications under the definition for distillate oil in §60.41c, and the sulfur content or maximum sulfur content of the fuel (§60.48c(f)).
  - 3.5.4.2 In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period (§60.48c(e)(11)).

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4. B003 & B004 – Combustion Engineering Boiler, rated at 125.5 MMBtu/hr (B003), & Erie City Boiler, rated at 151 MMBtu/hr (B004)

## Limitations apply to boiler unless otherwise stated below

	Permit Condition	Limitation	Monitoring	
Parameter	Number		Method	Interval
PM Standard	4.1	For each boiler: 0.14 lb/MMBtu	Fuel Restriction	Only Natural Gas or No. 2 Fuel Oil is Used as Fuel
Fuel Use	4.2	Total Fuel Use for B003 & B004: Natural Gas: 666.0 MMScf/yr No. 2 Fuel Oil: 193,000 gal/yr	Fuel Meter and Recordkeeping	Monthly
Opacity	4.3	Not to Exceed 20% Except as Provided for Below For Certain Operational Activities - Not to Exceed 30%, for a Period or Periods Aggregating More than Six (6) Minutes in any 60 Consecutive Minutes	See Condition 4.3	

In addition to the facility wide limits set forth in Section II, Condition 1, the following applies to these units:

4.1 Particulate Matter emissions from **each boiler** not exceed the above limitation (Colorado Regulation No. 1, Section III.A.1.b). In the absence of credible evidence to the contrary, compliance with the particulate matter emission limit is presumed since only natural gas or No. 2 Fuel Oil are permitted to be used as fuel in the boilers.

Note that the numeric PM standards for the boilers were determined using the design heat for each boiler (125.5 MMBtu/hr for B003 and 151 MMBtu/hr for B004) in the following equation:

PE = 
$$0.5 \times (FI)^{-0.26} \text{ lb/MMBtu}$$
  
Where FI = Fuel Input in MMBtu/hr

- 4.2 Fuel consumption shall be measured, recorded, and not exceed the limitations stated above (Colorado Construction Permit 89BO399) for **both Boilers B003 and B004 combined**. Fuel use shall be measured monthly and recorded no less frequently than monthly. A twelve-month rolling total of fuel use shall be maintained to determine compliance with the annual limitation and made available no later than the last working day of the following month. Records of fuel use shall be maintained for Division inspection upon request.
- 4.3 Boilers B003 and B004 are subject to the following opacity standards:

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Renewed: October 1, 2005 & October 1, 2010 Last Revised: October 26, 2011 4.3.1 Except as provided for in Condition 4.3.2 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity. This standard is based on 24 consecutive opacity readings taken at 15-second intervals for six minutes. The approved reference test method for visible emissions measurement on which these standards are based is EPA Method 9 (40 CFR Part 60, Appendix A (July, 1992)) in all subsections of Section II.A of Regulation No. 1 (Colorado Regulation No. 1, Section II.A.1). This opacity standard applies to **each boiler**.

Compliance with this opacity standard shall be monitored as follows:

- 4.3.1.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 4.3.1 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.3.2 meet the 20% opacity limit.
- 4.3.1.2 When Burning Natural Gas as Fuel: In the absence of credible evidence to the contrary, compliance with the opacity standard in Condition 4.3.1 shall be presumed during periods that only natural gas is used as fuel in the boilers.
- 4.3.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from the building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to **each boiler**.

Compliance with this opacity standard shall be monitored as follows:

- 4.3.2.1 When Burning No. 2 Fuel Oil: In the absence of credible evidence to the contrary, compliance with the opacity standard of Condition 4.3.2 shall be presumed if the visible emission observations conducted under the requirements of Condition 5.3.3 meet the 30% opacity limit.
- 4.3.2.2 When Burning Natural Gas as Fuel: In the absence of credible evidence to the contrary, compliance with the opacity standard in Condition 4.3.2 shall be presumed during periods that only natural gas is used as fuel in the boilers.
- 4.3.3 Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, exceedance of the opacity limit shall be considered to exist from the time a Method 9 reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit.
- 5. Opacity Monitoring During No. 2 Fuel Oil Combustion

5.1 Results of Method 9 readings and a copy of the certified Method 9 reader's certification shall be made available to the Division upon request.

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- 5.2 The following opacity monitoring requirements apply to Turbines TU001 and TU002 and to Duct Heaters DU001 and DU002 during periods of No. 2 Fuel Oil combustion:
  - 5.2.1 During each visible emission observation, the permittee shall record information to identify the units in operation, the type of fuel being combusted and the operating conditions of the equipment. An example recordkeeping format is shown in Appendix G of this Operating Permit; the permittee may use a different recordkeeping format provided that it specifies the units in operation, the type of fuel being combusted and the operating conditions of the equipment.
  - 5.2.2 A visible emissions observation shall be conducted in accordance with EPA Reference Method 9 within 24 hours of reaching normal operations on No. 2 Fuel Oil. Subsequent visual emissions observations are required as follows (§60.47c(a)(1)).
    - 5.2.2.1 If no visible emissions are observed during the previous observation, a subsequent Method 9 visible emissions observation must be completed within 12 calendar months from the date of the previous observation;
    - 5.2.2.2 If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 visible emissions observation must be completed within 6 calendar months from the date of the previous observation;
    - 5.2.2.3 If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 visual emissions observation must be completed within 3 calendar months from the date of the previous observation; or
    - 5.2.2.4 If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 visual emissions observation must be completed within 30 calendar days from the date of the previous observation.
      - For conditions 5.2.2.1 through 5.2.2.4: if startup on No. 2 Fuel Oil and/or fuel switching to No. 2 Fuel Oil has not occurred since the previous observation, no visual emissions observations are required.
  - 5.2.3 During Specific Activities (building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment): a visible emissions observation shall be conducted in accordance with EPA Method 9. This opacity observation shall be taken within one (1) hour of the commencement of any of the specific activities identified and every 24 hours thereafter until that activity is completed. At least one visible observation event shall be required per calendar year; except if none of the events listed above occurred during that calendar year, then no visible emission observations for that year are required.
- 5.3 The following opacity monitoring requirements apply to Boilers B003 and B004 during periods of No. 2 Fuel Oil combustion:
  - 5.3.1 During each visible emission observation, the permittee shall record information to identify the units in operation, the type of fuel being combusted and the operating conditions of the

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- equipment. An example recordkeeping format for this information is shown in Appendix G of this Operating Permit; the permittee may use a different recordkeeping format provided that it specifies the units in operation, the type of fuel being combusted and the operating conditions of the equipment.
- 5.3.2 A visible emissions observation shall be conducted in accordance with EPA Reference Method 9 within 24 hours of reaching normal operations on No. 2 fuel oil, once per quarter. If startup does not occur during the quarter, then no visible emissions observations are required.
  - If No. 2 fuel oil is burned continuously for seven (7) days, a visible emissions observation shall be conducted on the seventh day. Subsequent observations shall be taken every seven (7) days thereafter, provided that No. 2 fuel oil is burned continuously. If fuel oil is not burned then no visible emissions observations are required.
- 5.3.3 During Specific Activities (building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment): a visible emissions observation shall be conducted in accordance with EPA Method 9. This opacity observation shall be taken within one (1) hour of the commencement of any of the specific activities identified and every 24 hours thereafter until that activity is completed. At least one visible observation event shall be required per calendar year; except if none of the events listed above occurred during fuel oil combustion during that calendar year, then no visible emission observations for that year are required.
- 5.4 For conditions 5.2 and 5.3: A visible emissions observation is not required for any period where no fuel oil is burned, where fuel oil is not burned for a period of at least six minutes, or when fuel oil is not burned during daylight hours.

#### 6. **Continuous Emission Monitoring Requirements**

- 6.1 Equipment and QA/QC Requirements
  - Except as provided for below, the continuous emission monitoring systems are subject to the requirements of 40 CFR Part 60. The monitoring systems shall meet the equipment, installation and performance specifications of 40 CFR Part 60 Appendix B, Performance Specification 2, 4/4A and 6, as applicable. These CEMS are subject to the quality assurance/quality control requirements in 40 CFR Part 60 Appendix F and Subpart A § 60.13.
    - 6.1.1.1 As specified in §60.13(e)(2), during each full unit operating hour, each monitor must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour, to validate the hour. For partial unit operating hours, at least one valid data point must be obtained for each quadrant of the hour in which the unit operates. For unit operating hours in which required quality assurance and maintenance activities are performed on the CEMS, a minimum of two valid data points (one in each of two quadrants) are required to validate the hour ( $\S60.334(b)(2)$ ).

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6.1.2 The quality assurance/quality control plan for the continuous emissions monitoring systems shall be prepared in accordance with the requirements in 40 CFR Part 60, Appendix F. The quality assurance/quality control plan shall be made available to the Division upon request. Revisions shall be made to the plans at the request of the Division.

## 6.2 General Provisions

- 6.2.1 The permittee shall ensure that all continuous emission monitoring systems required are in operation and monitoring unit emissions or opacity at all times except for monitoring system breakdowns, repairs, calibration checks and zero and span adjustments required under 40 CFR Part 60 Subpart A § 60.13(d) (40 CFR Part 60 Subpart A § 60.13(e)).
- 6.2.2 Alternative monitoring systems, alternative reference methods, or any other alternatives for the required continuous emission monitoring systems shall not be used without having obtained prior written approval from the appropriate agency, either the Division or the U. S. EPA, depending on which agency is authorized to approve such alternative under applicable law. Any alternative continuous emission monitoring systems or continuous opacity monitoring systems must be certified in accordance with the requirements of 40 CFR Part 60 prior to use.
- 6.2.3 All test and monitoring equipment, methods, procedures and reporting shall be subject to the review and approval by the appropriate agency, either the Division or the U. S. EPA, depending on which agency is authorized to approve such item under applicable law, prior to any official use. The Division shall have the right to inspect such equipment, methods and procedures and data obtained at any time. The Division may provide a witness(s) for any and all tests as Division resources permit.
- 6.2.4 A file suitable for inspection shall be maintained of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by applicable portions of 40 CFR Part 60 Subpart A and Appendices B and F. This file may be in a hardcopy format, electronic format, or combination of these two methods.
- 6.2.5 Records shall be maintained of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the source; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative (40 CFR Part 60 Subpart A § 60.7(b)).

## 6.3 Data replacement requirements

For periods when quality assured data is not available from the continuous emission monitoring systems the data replacement procedures in Condition 1.1.1 shall be used for determining the monthly and rolling twelve-month total emissions.

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## 6.4 Recordkeeping and Reporting Requirements

- 6.4.1 The owner or operator of a facility required to install, maintain, and calibrate continuous monitoring equipment shall submit to the Division a report of excess emissions for all pollutants monitored for that quarter (40 CFR Part 60 Subpart A § 60.7(c)). All quarterly reports shall be postmarked by the 30<sup>th</sup> day following the end of each calendar quarter (§60.334(j)(3)). This report shall consist of the following information and/or reporting requirements as specified by the Division:
  - 6.4.1.1 The magnitude of excess emissions computed in accordance with 40 CFR Part 60 Subpart A § 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions and the process operating time during the reporting period (40 CFR Part 60 Subpart A § 60.7(c)(1)).
  - 6.4.1.2 Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted (40 CFR Part 60 Subpart A § 60.7(c)(2)).
  - 6.4.1.3 The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments (40 CFR Part 60 Subpart A § 60.7(c)(3)).
    - A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour, for either  $NO_x$  concentration or diluents (or both) ( $\S60.334(j)(iii)(B)$ ).
  - 6.4.1.4 When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report (40 CFR Part 60 Subpart A § 60.7(c)(4)).
  - 6.4.1.5 Ice Fog: Each period during which an exemption provided in Condition 2.1.2 is in effect shall be reported in writing to the Division quarterly. For each period the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time the air pollution control system was reactivated shall be reported. Additionally, any such occurrence shall be recorded and reported to the Division under the Emergency Provisions of Section IV of this Operating Permit.
- 6.4.2 The owner or operator of a facility required to install, maintain, and calibrate continuous monitoring equipment shall submit to the Division, by the end of the calendar month following the end of each calendar quarter, a summary report for that quarter (40 CFR Part 60 Subpart A § 60.7(c)). One summary report form shall be submitted for each pollutant monitored. This report shall contain the information and be presented in a format approved by the Division.

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If the total duration of excess emissions for the reporting period is less than 1 percent of the total operating time for the reporting period and continuous monitoring system (CMS) downtime is less than 5 percent of the total operating time for the reporting period, only the summary report form is required and the excess emission report described in Condition 6.4.1 need not be submitted unless required by the Division (40 CFR Part 60 Subpart A § 60.7(d)(1)).

If the total duration of excess emissions for the reporting period is 1 percent or greater of the total operating time for the reporting period or the total CMS downtime for the reporting period is 5 percent or greater of the total operating time for the reporting period, the summary report form and the excess emission report described in Condition 6.4.1 shall both be submitted (40 CFR Part 60 Subpart A § 60.7(d)(1)).

## 7. New Source Performance Standards – General Provisions

- 7.1 Regulation No. 6, Part A, Subpart A, General Provisions applies to turbines TU001 and TU002 and duct heaters DU001 and DU002 as follows:
  - 7.1.1 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (§60.11(d))
  - 7.1.2 No owner or operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere (§60.12).

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## **SECTION III - Permit Shield**

Regulation No. 3, 5 CCR 1001-5, Part C, §§ I.A.4, V.D. & XIII.B; § 25-7-114.4(3)(a), C.R.S.

## 1. Specific Non-Applicable Requirements

Based on the information available to the Division and supplied by the applicant, the following parameters and requirements have been specifically identified as non-applicable to the facility to which this permit has been issued. This shield does not protect the source from any violations that occurred prior to or at the time of permit issuance. In addition, this shield does not protect the source from any violations that occur as a result of any modifications or reconstruction on which construction commenced prior to permit issuance.

Emission Unit Description & Number	Applicable Requirement	Justification
B003 – Combustion	40 CFR 60 Subpart Db – Standards of	Subpart Db is applicable to steam generating units
Engineering Boiler	Performance for Industrial-Commercial-	that are built after June 19, 1984. Boilers B003
B004 – Erie City	Institutional Steam Generating Units	and B004 were built in 1958 and 1966,
Boiler		respectively.

### 2. General Conditions

Compliance with this Operating Permit shall be deemed compliance with all applicable requirements specifically identified in the permit and other requirements specifically identified in the permit as not applicable to the source. This permit shield shall not alter or affect the following:

- 2.1 The provisions of §§ 25-7-112 and 25-7-113, C.R.S., or § 303 of the federal act, concerning enforcement in cases of emergency;
- 2.2 The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- 2.3 The applicable requirements of the federal Acid Rain Program, consistent with § 408(a) of the federal act;
- 2.4 The ability of the Air Pollution Control Division to obtain information from a source pursuant to §25-7-111(2)(I), C.R.S., or the ability of the Administrator to obtain information pursuant to § 114 of the federal act:
- 2.5 The ability of the Air Pollution Control Division to reopen the Operating Permit for cause pursuant to Regulation No. 3, Part C, § XIII.
- 2.6 Sources are not shielded from terms and conditions that become applicable to the source subsequent to permit issuance.

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## 3. Streamlined Conditions

The following applicable requirements have been subsumed within this operating permit using the pertinent streamlining procedures approved by the U.S. EPA. For purposes of the permit shield, compliance with the listed permit conditions will also serve as a compliance demonstration for purposes of the associated subsumed requirements.

Source	Permit Condition	Streamlined (Subsumed) Requirements
Turbines TU001 and TU002	Section II, Condition 1.2	40 CFR Part 60, Subpart GG – sulfur fuel limits of \$60.333(b) during No. 2 fuel oil combustion [No owner or operator s shall burn in any stationary gas turbine any fuel which contains total sulfur in excess of 0.8 percent by weight]
	Section II, Condition 1.2	Colorado Regulation No. 1, Section VI.B.4.c.(ii) – sulfur dioxide limit for each turbine during No. 2 fuel oil combustion [0.35 lb SO <sub>2</sub> /MMBtu of heat input]. Note that the fuel oil emission factor of 1.01(S) lb/MMBtu equates to emissions of 0.30 lb SO <sub>2</sub> /MMBtu at the 0.3% sulfur limit requirement of Condition 1.2
	Section II, Condition 1.2	Colorado Regulation No. 6, Part B, Section II.D.3.b (State-only enforceable) – sulfur dioxide emission limit for each turbine during No. 2 fuel oil combustion [0.35 lb SO <sub>2</sub> /MMBtu of heat input]. Note that the fuel oil emission factor of 1.01(S) lb/MMBtu equates to emissions of 0.30 lb SO <sub>2</sub> /MMBtu at the 0.3% sulfur limit requirement of Condition 1.2
	Section II, Condition 2.6.2	Colorado Regulation No. 6, Part B, Section II.D.3.b (State-only enforceable) – sulfur dioxide emission limit for each turbine during natural gas combustion [0.35 lb SO <sub>2</sub> /MMBtu of heat input].
	Section II, Condition 2.2	Colorado Regulation No. 6, Part B, Section II.C.2 (State-only enforceable) – particulate matter emission limit [0.13 lb/MMBtu for each turbine and 0.14 lb/MMBtu/hr for each turbine/duct heater combination]
	Section II, Condition 6.4	40 CFR Part 60, Subpart GG § 60.334(j)(1)(iii) [NO <sub>x</sub> excess emission reporting]
Duct Heaters DU001 and DU002	Section II, Condition 1.2	Colorado Regulation No. 1, Section VI.B.4.b.(i) – sulfur dioxide emission limit for each duct heater during No. 2 fuel oil combustion [0.8 lb SO <sub>2</sub> /MMBtu of heat input]. Note that the fuel oil emission factor of 1.01(S) lb/MMBtu equates to emissions of 0.30 lb SO <sub>2</sub> /MMBtu at the 0.3% sulfur limit requirement of Condition 1.2
	Section II, Condition 1.2	Colorado Regulation No. 6, Part B, Section II.D.2.a (State-only enforceable) – sulfur dioxide emission limit for each duct heater during No. 2 fuel oil combustion [0.8 lb SO <sub>2</sub> /MMBtu of heat input.]
	Section II, Condition 1.2	40 CFR Part 60, Subpart Dc, §60.42c(d) – fuel oil sulfur limit [no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur].
	Section II, Condition 3.3	40 CFR Part 60, Subpart Dc, §60.48c(g)(2) – requirement to record the amount of fuel combusted during each calendar month.
	Section II, Condition 5.2.2.2	40 CFR Part 60, Subpart Dc, §60.47c(a)(2)— option to use Method 22 in lieu of Method 9 for subsequent opacity monitoring
	Section II, Condition 3.2	Colorado Regulation No. 6, Part B, Section II.C.2 (State-only enforceable) – particulate matter emission limit [0.17 lb/MMBtu for each duct heater when turbine is not operational]

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Source	Permit Condition	Streamlined (Subsumed) Requirements
Boilers B003 and B004	Section II, Condition 1.2	Colorado Regulation No. 1, Section VI.A.3.b.(i) – sulfur dioxide emission limit for each boiler during No. 2 fuel oil combustion [1.5 lb SO <sub>2</sub> /MMBtu of heat input]. Note that the fuel oil emission factor of 1.12(S) lb/MMBtu equates to emissions of 0.34 lb SO <sub>2</sub> /MMBtu at the 0.3% sulfur limit requirement of Condition 1.2

## **SECTION IV - General Permit Conditions (ver 3/23/2010)**

### 1. Administrative Changes

## Regulation No. 3, 5 CCR 1001-5, Part A, § III.

The permittee shall submit an application for an administrative permit amendment to the Division for those permit changes that are described in Regulation No. 3, Part A, § I.B.1. The permittee may immediately make the change upon submission of the application to the Division.

## 2. Certification Requirements

## Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.9., V.C.16.a.& e. and V.C.17.

- a. Any application, report, document and compliance certification submitted to the Air Pollution Control Division pursuant to Regulation No. 3 or the Operating Permit shall contain a certification by a responsible official of the truth, accuracy and completeness of such form, report or certification stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- b. All compliance certifications for terms and conditions in the Operating Permit shall be submitted to the Air Pollution Control Division at least annually unless a more frequent period is specified in the applicable requirement or by the Division in the Operating Permit.
- c. Compliance certifications shall contain:
  - (i) the identification of each permit term and condition that is the basis of the certification;
  - (ii) the compliance status of the source;
  - (iii) whether compliance was continuous or intermittent;
  - (iv) method(s) used for determining the compliance status of the source, currently and over the reporting period; and
  - (v) such other facts as the Air Pollution Control Division may require to determine the compliance status of the source.
- d. All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.
- e. If the permittee is required to develop and register a risk management plan pursuant to § 112(r) of the federal act, the permittee shall certify its compliance with that requirement; the Operating Permit shall not incorporate the contents of the risk management plan as a permit term or condition.

### 3. Common Provisions

## Common Provisions Regulation, 5 CCR 1001-2 §§ II.A., II.B., II.C., II.E., II.F., II.I, and II.J

To Control Emissions Leaving Colorado

When emissions generated from sources in Colorado cross the State boundary line, such emissions shall not cause the air quality standards of the receiving State to be exceeded, provided reciprocal action is taken by the receiving State.

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b. Emission Monitoring Requirements

The Division may require owners or operators of stationary air pollution sources to install, maintain, and use instrumentation to monitor and record emission data as a basis for periodic reports to the Division.

c. Performance Testing

The owner or operator of any air pollution source shall, upon request of the Division, conduct performance test(s) and furnish the Division a written report of the results of such test(s) in order to determine compliance with applicable emission control regulations.

Performance test(s) shall be conducted and the data reduced in accordance with the applicable reference test methods unless the Division:

- (i) specifies or approves, in specific cases, the use of a test method with minor changes in methodology;
- (ii) approves the use of an equivalent method;
- (iii) approves the use of an alternative method the results of which the Division has determined to be adequate for indicating where a specific source is in compliance; or
- (iv) waives the requirement for performance test(s) because the owner or operator of a source has demonstrated by other means to the Division's satisfaction that the affected facility is in compliance with the standard. Nothing in this paragraph shall be construed to abrogate the Commission's or Division's authority to require testing under the Colorado Revised Statutes, Title 25, Article 7, and pursuant to regulations promulgated by the Commission.

Compliance test(s) shall be conducted under such conditions as the Division shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Division such records as may be necessary to determine the conditions of the performance test(s). Operations during period of startup, shutdown, and malfunction shall not constitute representative conditions of performance test(s) unless otherwise specified in the applicable standard.

The owner or operator of an affected facility shall provide the Division thirty days prior notice of the performance test to afford the Division the opportunity to have an observer present. The Division may waive the thirty day notice requirement provided that arrangements satisfactory to the Division are made for earlier testing.

The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

- (i) Sampling ports adequate for test methods applicable to such facility;
- (ii) Safe sampling platform(s);
- (iii) Safe access to sampling platform(s); and
- (iv) Utilities for sampling and testing equipment.

Each performance test shall consist of at least three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of results of at least three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other

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Nothing in this section shall abrogate the Division's authority to conduct its own performance test(s) if so warranted.

d. Affirmative Defense Provision for Excess Emissions during Malfunctions

Note that until such time as the U.S. EPA approves this provision into the Colorado State Implementation Plan (SIP), it shall be enforceable only by the State.

An affirmative defense to a claim of violation under these regulations is provided to owners and operators for civil penalty actions for excess emissions during periods of malfunction. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of evidence that:

- (i) The excess emissions were caused by a sudden, unavoidable breakdown of equipment, or a sudden, unavoidable failure of a process to operate in the normal or usual manner, beyond the reasonable control of the owner or operator;
- (ii) The excess emissions did not stem from any activity or event that could have reasonably been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;
- (iii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded;
- (iv) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
- (v) All reasonably possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence;
- (viii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- (ix) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This section is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement; and
- (x) During the period of excess emissions, there were no exceedances of the relevant ambient air quality standards established in the Commissions' Regulations that could be attributed to the emitting source.

The owner or operator of the facility experiencing excess emissions during a malfunction shall notify the division verbally as soon as possible, but no later than noon of the Division's next working day, and shall submit written notification following the initial occurrence of the excess emissions by the end of the source's next reporting period. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to failures to meet federally promulgated performance standards

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or emission limits, including, but not limited to, new source performance standards and national emission standards for hazardous air pollutants. The affirmative defense provision does not apply to state implementation plan (sip) limits or permit limits that have been set taking into account potential emissions during malfunctions, including, but not necessarily limited to, certain limits with 30-day or longer averaging times, limits that indicate they apply during malfunctions, and limits that indicate they apply at all times or without exception.

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#### e. Circumvention Clause

A person shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of air pollutants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of this regulation. No person shall circumvent this regulation by using more openings than is considered normal practice by the industry or activity in question.

#### f. Compliance Certifications

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in the Colorado State Implementation Plan, nothing in the Colorado State Implementation Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. Evidence that has the effect of making any relevant standard or permit term more stringent shall not be credible for proving a violation of the standard or permit term.

When compliance or non-compliance is demonstrated by a test or procedure provided by permit or other applicable requirement, the owner or operator shall be presumed to be in compliance or non-compliance unless other relevant credible evidence overcomes that presumption.

### g. Affirmative Defense Provision for Excess Emissions During Startup and Shutdown

An affirmative defense is provided to owners and operators for civil penalty actions for excess emissions during periods of startup and shutdown. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of the evidence that:

- (i) The periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design;
- (ii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation or maintenance:
- (iii) If the excess emissions were caused by a bypass (an intentional diversion of control equipment), then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (iv) The frequency and duration of operation in startup and shutdown periods were minimized to the maximum extent practicable;
- (v) All possible steps were taken to minimize the impact of excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence; and,
- (viii) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This subparagraph is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement.

The owner or operator of the facility experiencing excess emissions during startup and shutdown shall notify the Division verbally as soon as possible, but no later than two (2) hours after the start of the next working day, and shall submit written quarterly notification following the initial occurrence of the excess emissions. The notification shall address the criteria set forth above.

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The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to State Implementation Plan provisions or other requirements that derive from new source performance standards or national emissions standards for hazardous air pollutants, or any other federally enforceable performance standard or emission limit with an averaging time greater than twentyfour hours. In addition, an affirmative defense cannot be used by a single source or small group of sources where the excess emissions have the potential to cause an exceedance of the ambient air quality standards or Prevention of Significant Deterioration (PSD) increments.

In making any determination whether a source established an affirmative defense, the Division shall consider the information within the notification required above and any other information the Division deems necessary, which may include, but is not limited to, physical inspection of the facility and review of documentation pertaining to the maintenance and operation of process and air pollution control equipment.

#### 4. **Compliance Requirements**

#### Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.C.9., V.C.11. & 16.d. and § 25-7-122.1(2), C.R.S.

- The permittee must comply with all conditions of the Operating Permit. Any permit noncompliance relating to federally-enforceable terms or conditions constitutes a violation of the federal act, as well as the state act and Regulation No. 3. Any permit noncompliance relating to state-only terms or conditions constitutes a violation of the state act and Regulation No. 3, shall be enforceable pursuant to state law, and shall not be enforceable by citizens under § 304 of the federal act. Any such violation of the federal act, the state act or regulations implementing either statute is grounds for enforcement action, for permit termination, revocation and reissuance or modification or for denial of a permit renewal application.
- b. It shall not be a defense for a permittee in an enforcement action or a consideration in favor of a permittee in a permit termination, revocation or modification action or action denying a permit renewal application that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of any request by c. the permittee for a permit modification, revocation and reissuance, or termination, or any notification of planned changes or anticipated noncompliance does not stay any permit condition, except as provided in §§ X. and XI. of Regulation No. 3, Part C.
- The permittee shall furnish to the Air Pollution Control Division, within a reasonable time as specified by the d. Division, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permittee, including information claimed to be confidential. Any information subject to a claim of confidentiality shall be specifically identified and submitted separately from information not subject to the claim.
- Any schedule for compliance for applicable requirements with which the source is not in compliance at the time of e. permit issuance shall be supplemental, and shall not sanction noncompliance with, the applicable requirements on which it is based.
- f. For any compliance schedule for applicable requirements with which the source is not in compliance at the time of permit issuance, the permittee shall submit, at least every 6 months unless a more frequent period is specified in the applicable requirement or by the Air Pollution Control Division, progress reports which contain the following:
  - (i) dates for achieving the activities, milestones, or compliance required in the schedule for compliance, and dates when such activities, milestones, or compliance were achieved; and

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- (ii) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.
- g. The permittee shall not knowingly falsify, tamper with, or render inaccurate any monitoring device or method required to be maintained or followed under the terms and conditions of the Operating Permit.

#### 5. Emergency Provisions

#### Regulation No. 3, 5 CCR 1001-5, Part C, § VII.E

An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed the technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. "Emergency" does not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. An emergency constitutes an affirmative defense to an enforcement action brought for noncompliance with a technology-based emission limitation if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. the permitted facility was at the time being properly operated;
- c. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- d. the permittee submitted oral notice of the emergency to the Air Pollution Control Division no later than noon of the next working day following the emergency, and followed by written notice within one month of the time when emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

This emergency provision is in addition to any emergency or malfunction provision contained in any applicable requirement.

### 6. Emission Controls for Asbestos

#### Regulation No. 8, 5 CCR 1001-10, Part B

The permittee shall not conduct any asbestos abatement activities except in accordance with the provisions of Regulation No. 8, Part B, "asbestos control."

### 7. Emissions Trading, Marketable Permits, Economic Incentives

#### Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.13.

No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are specifically provided for in the permit.

## 8. Fee Payment

#### C.R.S §§ 25-7-114.1(6) and 25-7-114.7

a. The permittee shall pay an annual emissions fee in accordance with the provisions of C.R.S. § 25-7-114.7. A 1% per month late payment fee shall be assessed against any invoice amounts not paid in full on the 91st day after the date of invoice, unless a permittee has filed a timely protest to the invoice amount.

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- b. The permittee shall pay a permit processing fee in accordance with the provisions of C.R.S. § 25-7-114.7. If the Division estimates that processing of the permit will take more than 30 hours, it will notify the permittee of its estimate of what the actual charges may be prior to commencing any work exceeding the 30 hour limit.
- c. The permittee shall pay an APEN fee in accordance with the provisions of C.R.S. § 25-7-114.1(6) for each APEN or revised APEN filed.

## 9. Fugitive Particulate Emissions

#### Regulation No. 1, 5 CCR 1001-3, § III.D.1.

The permittee shall employ such control measures and operating procedures as are necessary to minimize fugitive particulate emissions into the atmosphere, in accordance with the provisions of Regulation No. 1, § III.D.1.

#### 10. Inspection and Entry

#### Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.16.b.

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Air Pollution Control Division, or any authorized representative, to perform the following:

- a. enter upon the permittee's premises where an Operating Permit source is located, or emissions-related activity is conducted, or where records must be kept under the terms of the permit;
- b. have access to, and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- c. inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the Operating Permit;
- d. sample or monitor at reasonable times, for the purposes of assuring compliance with the Operating Permit or applicable requirements, any substances or parameters.

#### 11. Minor Permit Modifications

## Regulation No. 3, 5 CCR 1001-5, Part C, §§ X. & XI.

The permittee shall submit an application for a minor permit modification before making the change requested in the application. The permit shield shall not extend to minor permit modifications.

#### 12. New Source Review

### Regulation No. 3, 5 CCR 1001-5, Part B

The permittee shall not commence construction or modification of a source required to be reviewed under the New Source Review provisions of Regulation No. 3, Part B, without first receiving a construction permit.

#### 13. No Property Rights Conveyed

## Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.11.d.

This permit does not convey any property rights of any sort, or any exclusive privilege.

### 14. Odor

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#### Regulation No. 2, 5 CCR 1001-4, Part A

As a matter of state law only, the permittee shall comply with the provisions of Regulation No. 2 concerning odorous emissions.

#### 15. **Off-Permit Changes to the Source**

#### Regulation No. 3, 5 CCR 1001-5, Part C, § XII.B.

The permittee shall record any off-permit change to the source that causes the emissions of a regulated pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from the change, including any other data necessary to show compliance with applicable ambient air quality standards. The permittee shall provide contemporaneous notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permit shield shall not apply to any off-permit change.

#### 16. **Opacity**

#### Regulation No. 1, 5 CCR 1001-3, §§ I., II.

The permittee shall comply with the opacity emissions limitation set forth in Regulation No. 1, §§ I.- II.

#### 17. **Open Burning**

#### Regulation No. 9, 5 CCR 1001-11

The permittee shall obtain a permit from the Division for any regulated open burning activities in accordance with provisions of Regulation No. 9.

#### 18. **Ozone Depleting Compounds**

#### Regulation No. 15, 5 CCR 1001-17

The permittee shall comply with the provisions of Regulation No. 15 concerning emissions of ozone depleting compounds. Sections I., II.C., II.D., III. IV., and V. of Regulation No. 15 shall be enforced as a matter of state law only.

#### 19. **Permit Expiration and Renewal**

#### Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.6., IV.C., V.C.2.

- The permit term shall be five (5) years. The permit shall expire at the end of its term. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted.
- Applications for renewal shall be submitted at least twelve months, but not more than 18 months, prior to the h expiration of the Operating Permit. An application for permit renewal may address only those portions of the permit that require revision, supplementing, or deletion, incorporating the remaining permit terms by reference from the previous permit. A copy of any materials incorporated by reference must be included with the application.

#### 20. **Portable Sources**

## Regulation No. 3, 5 CCR 1001-5, Part C, § II.D.

Portable Source permittees shall notify the Air Pollution Control Division at least 10 days in advance of each change in location.

#### 21. **Prompt Deviation Reporting**

## Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.7.b.

The permittee shall promptly report any deviation from permit requirements, including those attributable to malfunction conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

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"Prompt" is defined as follows:

- a. Any definition of "prompt" or a specific timeframe for reporting deviations provided in an underlying applicable requirement as identified in this permit; or
- b. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:
  - (i) For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report shall be made within 24 hours of the occurrence;
  - (ii) For emissions of any regulated air pollutant, excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report shall be made within 48 hours; and
  - (iii) For all other deviations from permit requirements, the report shall be submitted every six (6) months, except as otherwise specified by the Division in the permit in accordance with paragraph 22.d. below.
- c. If any of the conditions in paragraphs b.i or b.ii above are met, the source shall notify the Division by telephone (303-692-3155) or facsimile (303-782-0278) based on the timetables listed above. [Explanatory note: Notification by telephone or facsimile must specify that this notification is a deviation report for an Operating Permit.] A written notice, certified consistent with General Condition 2.a. above (Certification Requirements), shall be submitted within 10 working days of the occurrence. All deviations reported under this section shall also be identified in the 6-month report required above.

"Prompt reporting" does not constitute an exception to the requirements of "Emergency Provisions" for the purpose of avoiding enforcement actions.

#### 22. Record Keeping and Reporting Requirements

## Regulation No. 3, 5 CCR 1001-5, Part A, § II.; Part C, §§ V.C.6., V.C.7.

- a. Unless otherwise provided in the source specific conditions of this Operating Permit, the permittee shall maintain compliance monitoring records that include the following information:
  - (i) date, place as defined in the Operating Permit, and time of sampling or measurements;
  - (ii) date(s) on which analyses were performed;
  - (iii) the company or entity that performed the analysis;
  - (iv) the analytical techniques or methods used;
  - (v) the results of such analysis; and
  - (vi) the operating conditions at the time of sampling or measurement.
- b. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report or application. Support information, for this purpose, includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Operating Permit. With prior approval of the Air Pollution Control Division, the permittee may maintain any of the above records in a computerized form.

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- Permittees must retain records of all required monitoring data and support information for the most recent twelve (12) month period, as well as compliance certifications for the past five (5) years on-site at all times. A permittee shall make available for the Air Pollution Control Division's review all other records of required monitoring data and support information required to be retained by the permittee upon 48 hours advance notice by the Division.
- d. The permittee shall submit to the Air Pollution Control Division all reports of any required monitoring at least every six (6) months, unless an applicable requirement, the compliance assurance monitoring rule, or the Division requires submission on a more frequent basis. All instances of deviations from any permit requirements must be clearly identified in such reports.
- e. The permittee shall file an Air Pollutant Emissions Notice ("APEN") prior to constructing, modifying, or altering any facility, process, activity which constitutes a stationary source from which air pollutants are or are to be emitted, unless such source is exempt from the APEN filing requirements of Regulation No. 3, Part A, § II.D. A revised APEN shall be filed annually whenever a significant change in emissions, as defined in Regulation No. 3, Part A, § II.C.2., occurs; whenever there is a change in owner or operator of any facility, process, or activity; whenever new control equipment is installed; whenever a different type of control equipment replaces an existing type of control equipment; whenever a permit limitation must be modified; or before the APEN expires. An APEN is valid for a period of five years. The five-year period recommences when a revised APEN is received by the Air Pollution Control Division. Revised APENs shall be submitted no later than 30 days before the five-year term expires. Permittees submitting revised APENs to inform the Division of a change in actual emission rates must do so by April 30 of the following year. Where a permit revision is required, the revised APEN must be filed along with a request for permit revision. APENs for changes in control equipment must be submitted before the change occurs. Annual fees are based on the most recent APEN on file with the Division.

#### 23. Reopenings for Cause

#### Regulation No. 3, 5 CCR 1001-5, Part C, § XIII.

- a. The Air Pollution Control Division shall reopen, revise, and reissue Operating Permits; permit reopenings and reissuance shall be processed using the procedures set forth in Regulation No. 3, Part C, § III., except that proceedings to reopen and reissue permits affect only those parts of the permit for which cause to reopen exists.
- b. The Division shall reopen a permit whenever additional applicable requirements become applicable to a major source with a remaining permit term of three or more years, unless the effective date of the requirements is later than the date on which the permit expires, or unless a general permit is obtained to address the new requirements; whenever additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program; whenever the Division determines the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or whenever the Division determines that the permit must be revised or revoked to assure compliance with an applicable requirement.
- c. The Division shall provide 30 days' advance notice to the permittee of its intent to reopen the permit, except that a shorter notice may be provided in the case of an emergency.
- d. The permit shield shall extend to those parts of the permit that have been changed pursuant to the reopening and reissuance procedure.

### **24.** Section 502(b)(10) Changes

#### Regulation No. 3, 5 CCR 1001-5, Part C, § XII.A.

The permittee shall provide a minimum 7-day advance notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permittee shall attach a copy of each such notice given to its Operating Permit.

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#### 25. Severability Clause

#### Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.10.

In the event of a challenge to any portion of the permit, all emissions limits, specific and general conditions, monitoring, record keeping and reporting requirements of the permit, except those being challenged, remain valid and enforceable.

#### 26. Significant Permit Modifications

#### Regulation No. 3, 5 CCR 1001-5, Part C, § III.B.2.

The permittee shall not make a significant modification required to be reviewed under Regulation No. 3, Part B ("Construction Permit" requirements) without first receiving a construction permit. The permittee shall submit a complete Operating Permit application or application for an Operating Permit revision for any new or modified source within twelve months of commencing operation, to the address listed in Item 1 in Appendix D of this permit. If the permittee chooses to use the "Combined Construction/Operating Permit" application procedures of Regulation No. 3, Part C, then the Operating Permit must be received prior to commencing construction of the new or modified source.

#### 27. Special Provisions Concerning the Acid Rain Program

#### Regulation No. 3, 5 CCR 1001-5, Part C, §§ V.C.1.b. & 8

- a. Where an applicable requirement of the federal act is more stringent than an applicable requirement of regulations promulgated under Title IV of the federal act, 40 Code of Federal Regulations (CFR) Part 72, both provisions shall be incorporated into the permit and shall be federally enforceable.
- b. Emissions exceeding any allowances that the source lawfully holds under Title IV of the federal act or the regulations promulgated thereunder, 40 CFR Part 72, are expressly prohibited.

### 28. Transfer or Assignment of Ownership

#### Regulation No. 3, 5 CCR 1001-5, Part C, § II.C.

No transfer or assignment of ownership of the Operating Permit source will be effective unless the prospective owner or operator applies to the Air Pollution Control Division on Division-supplied Administrative Permit Amendment forms, for reissuance of the existing Operating Permit. No administrative permit shall be complete until a written agreement containing a specific date for transfer of permit, responsibility, coverage, and liability between the permittee and the prospective owner or operator has been submitted to the Division.

#### 29. Volatile Organic Compounds

#### Regulation No. 7, 5 CCR 1001-9, §§ III & V.

- a. For sources located in an ozone non-attainment area or the Denver Metro Attainment Maintenance Area, all storage tank gauging devices, anti-rotation devices, accesses, seals, hatches, roof drainage systems, support structures, and pressure relief valves shall be maintained and operated to prevent detectable vapor loss except when opened, actuated, or used for necessary and proper activities (e.g. maintenance). Such opening, actuation, or use shall be limited so as to minimize vapor loss.
  - Detectable vapor loss shall be determined visually, by touch, by presence of odor, or using a portable hydrocarbon analyzer. When an analyzer is used, detectable vapor loss means a VOC concentration exceeding 10,000 ppm. Testing shall be conducted as in Regulation No. 7, Section VIII.C.3.
- b. Except when otherwise provided by Regulation No. 7, all volatile organic compounds, excluding petroleum liquids, transferred to any tank, container, or vehicle compartment with a capacity exceeding 212 liters (56 gallons), shall be

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transferred using submerged or bottom filling equipment. For top loading, the fill tube shall reach within six inches of the bottom of the tank compartment. For bottom-fill operations, the inlet shall be flush with the tank bottom.

- c. The permittee shall not dispose of volatile organic compounds by evaporation or spillage unless Reasonably Available Control Technology (RACT) is utilized.
- d. No owner or operator of a bulk gasoline terminal, bulk gasoline plant, or gasoline dispensing facility as defined in Colorado Regulation No. 7, Section VI, shall permit gasoline to be intentionally spilled, discarded in sewers, stored in open containers, or disposed of in any other manner that would result in evaporation.
- e. Beer production and associated beer container storage and transfer operations involving volatile organic compounds with a true vapor pressure of less than 1.5 PSIA actual conditions are exempt from the provisions of paragraph b, above.

### 30. Wood Stoves and Wood burning Appliances

#### Regulation No. 4, 5 CCR 1001-6

The permittee shall comply with the provisions of Regulation No. 4 concerning the advertisement, sale, installation, and use of wood stoves and wood burning appliances.

# **OPERATING PERMIT APPENDICES**

- A INSPECTION INFORMATION
- **B-MONITORING AND PERMIT DEVIATION REPORT**
- C COMPLIANCE CERTIFICATION REPORT
- **D-NOTIFICATION ADDRESSES**
- **E PERMIT ACRONYMS**
- F PERMIT MODIFICATIONS
- G OPACITY MONITORING RECORDKEEPING FORMAT

## \*DISCLAIMER:

None of the information found in these Appendices shall be considered to be State or Federally enforceable, except as otherwise provided in the permit, and is presented to assist the source, permitting authority, inspectors, and citizens.

## **APPENDIX A - Inspection Information**

#### 1. Directions to Plant:

The Power House is located at the southeast corner of 18th Street and Colorado Avenue, which is approximately in the center of the CU Boulder campus. From Denver, take I-25 North to Hwy 36 West. In Boulder, turn Left at Colorado. Notify the Gate Operator and continue on to 18th. Turn Left on 18th, Right on Euclid and park in the lot on the right. The plant is located on the corner of 18th and Colorado.

## 2. Safety Equipment Required:

Eye Protection, Hard Hat, Safety Shoes, Hearing Protection, and Gloves.

## 3. Facility Plot Plan:

The attached Figure (following page) shows the plot plan as submitted in the March 1, 1995 Title V Operating Permit Application.

## 4. List of Insignificant Activities:

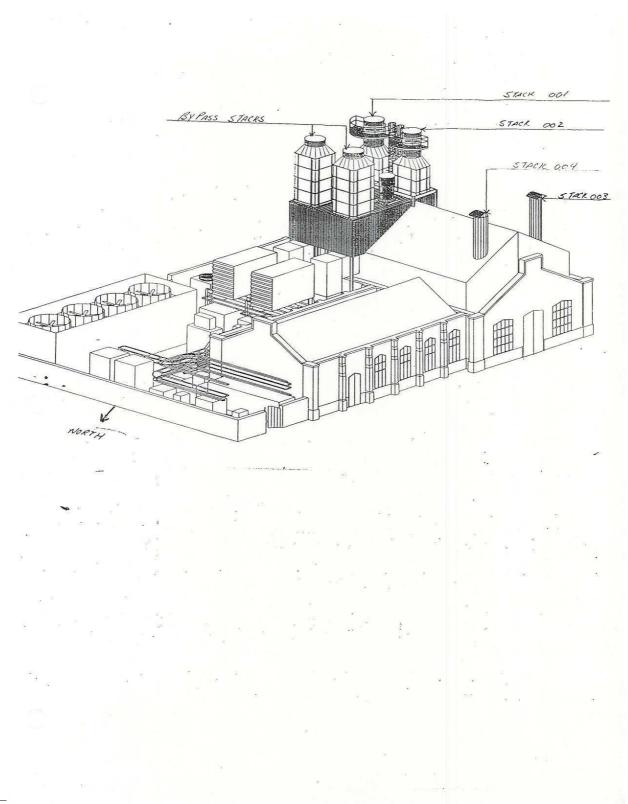
The following list of insignificant activities was provided by the source to assist in the understanding of the facility layout. Since there is no requirement to update such a list, activities may have changed since the last filing.

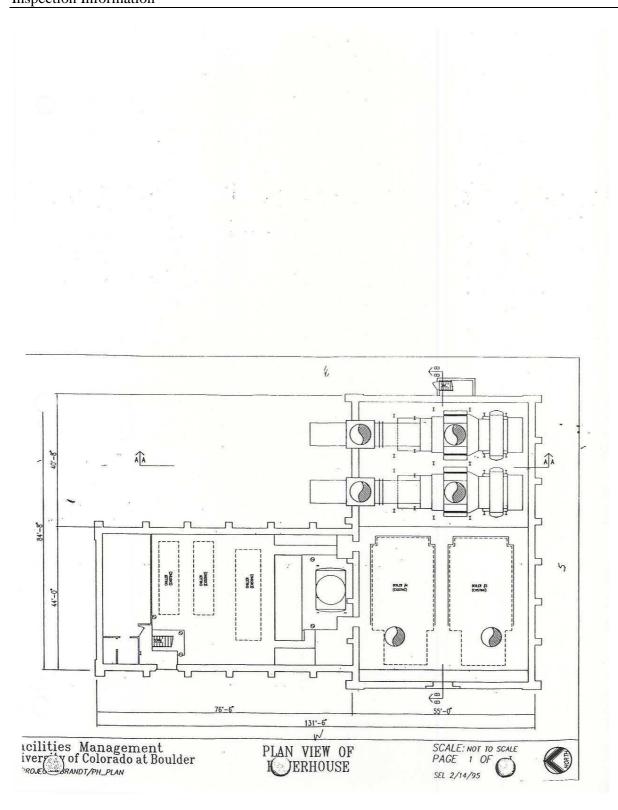
Four (4) Underground Storage Tanks, each with a 40,000 gallon capacity to store no. 2 fuel oil.\*

\* Regulation No. 3, Part C, Section II.E.3.fff.(ii)(B) lists storage tanks with an annual throughput less than 400,000 gallons where the liquid stored includes Fuel Oils #1 - #6 as an Insignificant Activity. The owner or operator must maintain sufficient recordkeeping to verify that the exemption applies (i.e., annual throughput is less than 400,000 gallons). Such records shall be made available for Division review upon request (Regulation No. 3, Part C, Section II.E).

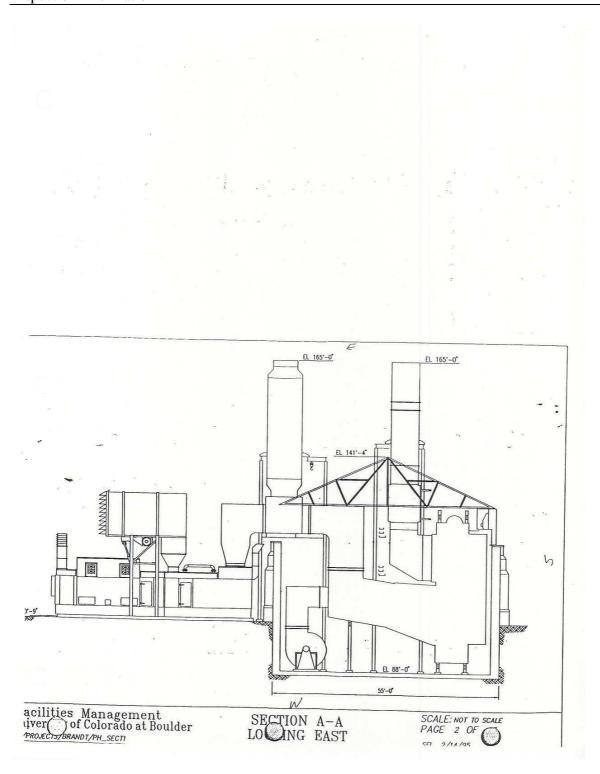
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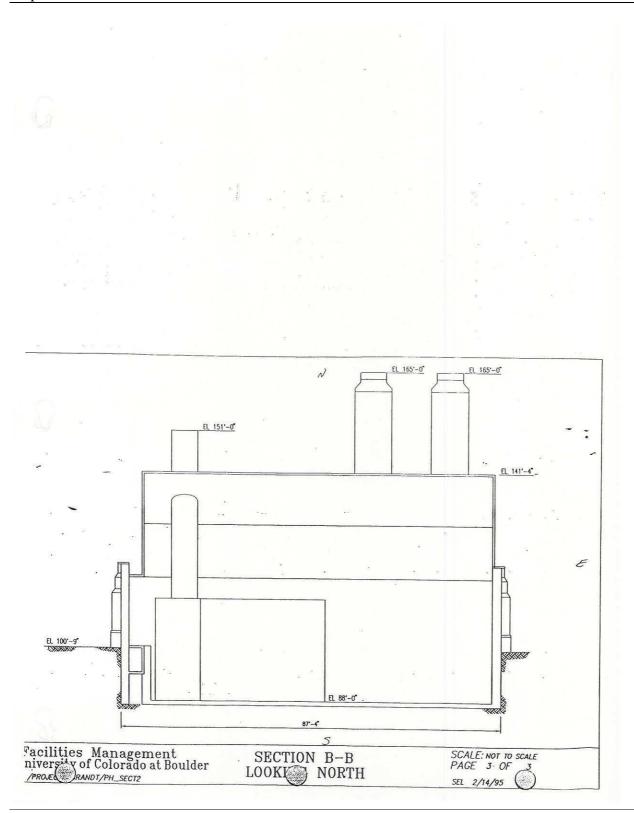




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#### APPENDIX B

## **Reporting Requirements and Definitions**

with codes ver 2/20/07

Please note that, pursuant to 113(c)(2) of the federal Clean Air Act, any person who knowingly:

- (A) makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to the Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);
- (B) fails to notify or report as required under the Act; or
- (C) falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under the Act shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

The permittee must comply with all conditions of this operating permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

The Part 70 Operating Permit program requires three types of reports to be filed for all permits. All required reports must be certified by a responsible official.

### **Report #1: Monitoring Deviation Report** (due at least every six months)

For purposes of this operating permit, the Division is requiring that the monitoring reports are due every six months unless otherwise noted in the permit. All instances of deviations from permit monitoring requirements must be clearly identified in such reports.

For purposes of this operating permit, monitoring means any condition determined by observation, by data from any monitoring protocol, or by any other monitoring which is required by the permit as well as the recordkeeping associated with that monitoring. This would include, for example, fuel use or process rate monitoring, fuel analyses, and operational or control device parameter monitoring.

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## **Report #2: Permit Deviation Report (must be reported "promptly")**

In addition to the monitoring requirements set forth in the permits as discussed above, each and every requirement of the permit is subject to deviation reporting. The reports must address deviations from permit requirements, including those attributable to malfunctions as defined in this Appendix, the probable cause of such deviations, and any corrective actions or preventive measures taken. All deviations from any term or condition of the permit are required to be summarized or referenced in the annual compliance certification.

For purposes of this operating permit, "malfunction" shall refer to both emergency conditions and malfunctions. Additional discussion on these conditions is provided later in this Appendix.

For purposes of this operating permit, the Division is requiring that the permit deviation reports are due as set forth in General Condition 21. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. For example, quarterly Excess Emission Reports required by an NSPS or Regulation No. 1, Section IV.

In addition to the monitoring deviations discussed above, included in the meaning of deviation for the purposes of this operating permit are any of the following:

- (1) A situation where emissions exceed an emission limitation or standard contained in the permit;
- (2) A situation where process or control device parameter values demonstrate that an emission limitation or standard contained in the permit has not been met;
- (3) A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit; or,
- (4) A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only if the emission point is subject to CAM)

For reporting purposes, the Division has combined the Monitoring Deviation Report with the Permit Deviation Report. All deviations shall be reported using the following codes:

1 = Standard: When the requirement is an emission limit or standard 2 = Process: When the requirement is a production/process limit

3 = Monitor: When the requirement is monitoring 4 = Test: When the requirement is testing

5 = Maintenance: When required maintenance is not performed
 6 = Record: When the requirement is recordkeeping
 7 = Report: When the requirement is reporting

**8 = CAM:** A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the

Compliance Assurance Monitoring (CAM) Rule) has occurred.

**9 = Other:** When the deviation is not covered by any of the above categories

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## Report #3: Compliance Certification (annually, as defined in the permit)

Submission of compliance certifications with terms and conditions in the permit, including emission limitations, standards, or work practices, is required not less than annually.

Compliance Certifications are intended to state the compliance status of each requirement of the permit over the certification period. They must be based, at a minimum, on the testing and monitoring methods specified in the permit that were conducted during the relevant time period. In addition, if the owner or operator knows of other material information (i.e. information beyond required monitoring that has been specifically assessed in relation to how the information potentially affects compliance status), that information must be identified and addressed in the compliance certification. The compliance certification must include the following:

- 1.1.1 The identification of each term or condition of the permit that is the basis of the certification;
- 1.1.2 Whether or not the method(s) used by the owner or operator for determining the compliance status with each permit term and condition during the certification period was the method(s) specified in the permit. Such methods and other means shall include, at a minimum, the methods and means required in the permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Clean Air Act, which prohibits knowingly making a false certification or omitting material information;
- 1.1.3 The status of compliance with the terms and conditions of the permit, and whether compliance was continuous or intermittent. The certification shall identify each deviation and take it into account in the compliance certification. Note that not all deviations are considered violations.<sup>1</sup>
- 1.1.4 Such other facts as the Division may require, consistent with the applicable requirements to which the source is subject, to determine the compliance status of the source.

The Certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only for emission points subject to CAM)

Note the requirement that the certification shall identify each deviation and take it into account in the compliance certification. Previously submitted deviation reports, including the deviation report submitted at the time of the annual certification, may be referenced in the compliance certification.

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<sup>&</sup>lt;sup>1</sup> For example, given the various emissions limitations and monitoring requirements to which a source may be subject, a deviation from one requirement may not be a deviation under another requirement which recognizes an exception and/or special circumstances relating to that same event.

## Startup, Shutdown, Malfunctions and Emergencies

Understanding the application of Startup, Shutdown, Malfunctions and Emergency Provisions, is very important in both the deviation reports and the annual compliance certifications.

## Startup, Shutdown, and Malfunctions

Please note that exceedances of some New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards that occur during Startup, Shutdown or Malfunctions may not be considered to be non-compliance since emission limits or standards often do not apply unless specifically stated in the NSPS. Such exceedances must, however, be reported as excess emissions per the NSPS/MACT rules and would still be noted in the deviation report. In regard to compliance certifications, the permittee should be confident of the information related to those deviations when making compliance determinations since they are subject to Division review. The concepts of Startup, Shutdown and Malfunctions also exist for Best Available Control Technology (BACT) sources, but are not applied in the same fashion as for NSPS and MACT sources.

## **Emergency Provisions**

Under the Emergency provisions of Part 70 certain operational conditions may act as an affirmative defense against enforcement action if they are properly reported.

#### **DEFINITIONS**

**Malfunction** (NSPS) means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

**Malfunction** (SIP) means any sudden and unavoidable failure of air pollution control equipment or process equipment or unintended failure of a process to operate in a normal or usual manner. Failures that are primarily caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

**Emergency** means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

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## Monitoring and Permit Deviation Report - Part I

- 1. Following is the **required** format for the Monitoring and Permit Deviation report to be submitted to the Division as set forth in General Condition 21. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.
- 2. Part II of this Appendix B shows the format and information the Division will require for describing periods of monitoring and permit deviations, or malfunction or emergency conditions as indicated in the Table below. One Part II Form must be completed for each Deviation. Previously submitted reports (e.g. EER's or malfunctions) may be referenced and the form need not be filled out in its entirety.

FACILITY NAME: University of Colorado	at Boulder – Power House
OPERATING PERMIT NO: 95OPBO059	
REPORTING PERIOD:	(see first page of the permit for specific reporting period and dates)

Operating Permit Unit		Deviations noted During Period? <sup>1</sup>		Deviation Code	Code Malfunction/Emergen Condition Reported During Period?	
ID	Unit Description	YES	NO		YES	NO
	Facility-Wide Limits					
TU001	Mitsubishi Turbine, Model MF-111AB, S/N: 0172, 1960 MMBtu/hr, natural gas or No. 2 fuel oil.					
TU002	Mitsubishi Turbine, Model MF-111AB, S/N: 0173, 1960 MMBtu/hr, natural gas or No. 2 fuel oil.					
DU001	Davis Duct Heater for TU001, 66.6 MMBtu/hr, natural gas or No. 2 fuel oil.					
DU002	Coen Duct Heater for TU002, 66.6 MMBtu/hr, natural gas or No. 2 fuel oil.					
B003	Combustion Engineering Boiler (tangential), Model VU-5E, S/N: 5970, 125.5 MMBtu/hr, natural gas or No. 2 fuel oil.					
B004	Erie City Boiler, Model 2DR, S/N: 97294, 151 MMBtu/hr, natural gas or No. 2 fuel oil.					
General Conditions						
Insignificant Activities						

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1 = Standard: When the requirement is an emission limit or standard 2 = Process: When the requirement is a production/process limit

3 = Monitor: When the requirement is monitoring 4 = Test: When the requirement is testing

5 = Maintenance: When required maintenance is not performed
 6 = Record: When the requirement is recordkeeping
 7 = Report: When the requirement is reporting

**8 = CAM:** A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the

Compliance Assurance Monitoring (CAM) Rule) has occurred.

**9 = Other:** When the deviation is not covered by any of the above categories

<sup>&</sup>lt;sup>1</sup> See previous discussion regarding what is considered to be a deviation. Determination of whether or not a deviation has occurred shall be based on a reasonable inquiry using readily available information.

<sup>&</sup>lt;sup>2</sup> Use the following entries, as appropriate

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Last Revised: October 26, 2011

## **Monitoring and Permit Deviation Report - Part II**

FACILITY NAME: University of Colorado OPERATING PERMIT NO: 950PBO059 REPORTING PERIOD:	o at Boulder – Powe	r House	
Is the deviation being claimed as an:	Emergency	_ Malfunction_	N/A
(For NSPS/MACT) Did the deviation occur during:	Startup	Shutdown	Malfunction
	Normal Operation		
OPERATING PERMIT UNIT IDENTIFICATION:			
Operating Permit Condition Number Citation			
Explanation of Period of Deviation			
<u>Duration (start/stop date &amp; time)</u>			
Action Taken to Correct the Problem			
Measures Taken to Prevent a Reoccurrence of the Pr	roblem		
Dates of Malfunctions/Emergencies Reported (if app	olicable)		
	Division Code QA:		
Operating Permit 95OPBO059			sued: January 1, 1999

## **EXAMPLE**

FACILITY NAME: Acme Corp. OPERATING PERMIT NO: 96OPZZXXX REPORTING PERIOD: 1/1/04 - 6/30/06			
Is the deviation being claimed as an:	Emergency	Malfunction _	XX N/A
(For NSPS/MACT) Did the deviation occur during:	Startup Normal Operation	Shutdown	Malfunction
OPERATING PERMIT UNIT IDENTIFICATION:			
Asphalt Plant with a Scrubber for Particulate Contro	l - Unit XXX		
Operating Permit Condition Number Citation			
Section II, Condition 3.1 - Opacity Limitation			
Explanation of Period of Deviation			
Slurry Line Feed Plugged			
Duration			
START- 1730 4/10/06 END- 1800 4/10/06			
Action Taken to Correct the Problem			
Line Blown Out			
Measures Taken to Prevent Reoccurrence of the Prol	<u>blem</u>		
Replaced Line Filter			
Dates of Malfunction/Emergencies Reported (if appl	icable)		
5/30/06 to R. Hoek, APCD			
Deviation Code	Division Code QA:		

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## **Monitoring and Permit Deviation Report - Part III**

## REPORT CERTIFICATION

SOURCE NAME: University of Colorado at Boulder – Power House	
FACILITY IDENTIFICATION NUMBER: 0130553	
PERMIT NUMBER: 95OPBO059	
REPORTING PERIOD: (see first page of the permi	it for specific reporting period and dates)
All information for the Title V Semi-Annual Deviation Reports must defined in Colorado Regulation No. 3, Part A, Section I.B.38. This packaged with the documents being submitted.	
STATEMENT OF COMPLETENESS	
I have reviewed the information being submitted in its entirety of formed after reasonable inquiry, I certify that the statements and it are true, accurate and complete.	
Please note that the Colorado Statutes state that any person who kn 1-501(6), C.R.S., makes any false material statement, representation guilty of a misdemeanor and may be punished in accordance wi 122.1, C.R.S.	on, or certification in this document is
Printed or Typed Name	Title
Timed of Typed Name	Title
Signature of Responsible Official	Date Signed

Note: Deviation reports shall be submitted to the Division at the address given in Appendix D of this

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permit. No copies need be sent to the U.S. EPA.

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#### APPENDIX C

## **Required Format for Annual Compliance Certification Reports**

Following is the format for the Compliance Certification report to be submitted to the Division and the U.S. EPA annually based on the effective date of the permit. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.

FACILITY NAME: University of Colorado at Boulder – Power House

OPERATING PERMIT NO: 950PBO059 REPORTING PERIOD:

## I. Facility Status

During the entire reporting period, this source was in compliance with <b>ALL</b> terms and cond	itions contained
in the Permit, each term and condition of which is identified and included by this reference.	The method(s)
used to determine compliance is/are the method(s) specified in the Permit.	

With the possible exception of the deviations identified in the table below, this source was in compliance with all terms and conditions contained in the Permit, each term and condition of which is identified and included by this reference, during the entire reporting period. The method used to determine compliance for each term and condition is the method specified in the Permit, unless otherwise indicated and described in the deviation report(s). Note that not all deviations are considered violations.

Operating Permit Unit ID	Unit Description	Deviations Reported <sup>1</sup>		Monitoring Method per Permit? <sup>2</sup>		Was compliance continuous or intermittent? <sup>3</sup>	
110		Previous	Current	YES	NO	Continuous	Intermittent
	Facility-Wide Limits						
TU001	Mitsubishi Turbine, Model MF-111AB, S/N: 0172, 1960 MMBtu/hr, natural gas or No. 2 fuel oil.						
TU002	Mitsubishi Turbine, Model MF-111AB, S/N: 0173, 1960 MMBtu/hr, natural gas or No. 2 fuel oil.						
DU001	Davis Duct Heater for TU001, 66.6 MMBtu/hr, natural gas						

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Operating Permit Unit ID	Unit Description	Deviations Reported <sup>1</sup>		Monit Metho Perm	od per		ce continuous or nittent? <sup>3</sup>
ID.		Previous	Current	YES	NO	Continuous	Intermittent
	or No. 2 fuel oil.						
DU002	Coen Duct Heater for TU002, 66.6 MMBtu/hr, natural gas or No. 2 fuel oil.						
B003	Combustion Engineering Boiler (tangential), Model VU- 5E, S/N: 5970, 125.5 MMBtu/hr, natural gas or No. 2 fuel oil.						
B004	Erie City Boiler, Model 2DR, S/N: 97294, 151 MMBtu/hr, natural gas or No. 2 fuel oil.						
General Condi	General Conditions						
Insignificant A	ctivities <sup>4</sup>						

<sup>&</sup>lt;sup>1</sup> If deviations were noted in a previous deviation report, put an "X" under "previous". If deviations were noted in the current deviation report (i.e. for the last six months of the annual reporting period), put an "X" under "current". Mark both columns if both apply.

#### NOTE:

The Periodic Monitoring requirements of the Operating Permit program rule are intended to provide assurance that even in the absence of a continuous system of monitoring the Title V source can demonstrate whether it has operated in continuous compliance for the duration of the reporting period. Therefore, if a source 1) conducts all of the monitoring and recordkeeping required in its permit, even if such activities are done periodically and not continuously, and if 2) such monitoring and recordkeeping does not indicate non-compliance, and if 3) the Responsible Official is not aware of any credible evidence that indicates non-compliance, then the Responsible Official can certify that the emission point(s) in question were in continuous compliance during the applicable time period.

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<sup>&</sup>lt;sup>2</sup> Note whether the method(s) used to determine the compliance status with each term and condition was the method(s) specified in the permit. If it was not, mark "no" and attach additional information/explanation.

<sup>&</sup>lt;sup>3</sup> Note whether the compliance status with each term and condition provided was continuous or intermittent. "Intermittent Compliance" can mean either that noncompliance has occurred or that the owner or operator has data sufficient to certify compliance only on an intermittent basis. Certification of intermittent compliance therefore does not necessarily mean that any noncompliance has occurred.

<sup>&</sup>lt;sup>4</sup>Compliance status for these sources shall be based on a reasonable inquiry using readily available information.

II.	Statu	s for Accidental Release Preven	ntion Program:					
	A.	This facility is s Release Prevention Program	ubject(Section 112(r) of			s of the A	Accide	ental
	B.	If subject: The facility		is not	in compliand	ce with	all	the
		A Risk Management appropriate authority						the
III.	Certi	fication						
Color	ado Re	ion for the Annual Compliance egulation No. 3, Part A, Section ats being submitted.		•				
reaso	nable	ewed this certification in its inquiry, I certify that the stated complete.						
C.R.S	., mak	that the Colorado Statutes st ses any false material stateme or and may be punished in ac	nt, representatio	n, or certificati	ion in this docu	ment is g		
		Printed or Typed Name			7	Title		
		Signature			Da	te Signed		
		ompliance certifications shall be submaddresses listed in Appendix D of this		ution Control Divi	sion and to the Er	vironmenta	ıl Prote	ection

First Issued: January 1, 1999

#### APPENDIX D

## **Notification Addresses**

#### 1. Air Pollution Control Division

Colorado Department of Public Health and Environment Air Pollution Control Division Operating Permits Unit APCD-SS-B1 4300 Cherry Creek Drive S. Denver, CO 80246-1530

ATTN: Matt Burgett

## 2. United States Environmental Protection Agency

## **Compliance Notifications:**

Office of Enforcement, Compliance and Environmental Justice Mail Code 8ENF-T U.S. Environmental Protection Agency, Region VIII 1595 Wynkoop Street Denver, Colorado 80202-1129

## Permit Modifications, Off Permit Changes:

Office of Partnerships and Regulatory Assistance Air and Radiation Programs, 8P-AR U.S. Environmental Protection Agency, Region VIII 1595 Wynkoop Street Denver, Colorado 80202-1129

#### APPENDIX E

## **Permit Acronyms**

## Listed Alphabetically:

AIRS -	Aerometric	Information	Retrieval Sy	zstem
711110	1 tolollicule	momanon	ixcuit vai b	SICILI

AP-42 - EPA Document Compiling Air Pollutant Emission Factors

APEN - Air Pollution Emission Notice (State of Colorado) APCD - Air Pollution Control Division (State of Colorado)

ASTM - American Society for Testing and Materials

BACT - Best Available Control Technology

BTU - British Thermal Unit

CAA - Clean Air Act (CAAA = Clean Air Act Amendments)

CCR - Colorado Code of Regulations CEM - Continuous Emissions Monitor

CF - Cubic Feet (SCF = Standard Cubic Feet)

CFR - Code of Federal Regulations

CO - Carbon Monoxide

COM - Continuous Opacity Monitor CRS - Colorado Revised Statute

EF - Emission Factor

EPA - Environmental Protection Agency FI - Fuel Input Rate in Lbs/mmBtu

FR - Federal Register

G - Grams Gal - Gallon

GPM - Gallons per Minute HAPs - Hazardous Air Pollutants

HP - Horsepower

HP-HR - Horsepower Hour (G/HP-HR = Grams per Horsepower Hour)

LAER - Lowest Achievable Emission Rate

LBS - Pounds M - Thousand MM - Million

MMscf - Million Standard Cubic Feet

MMscfd - Million Standard Cubic Feet per Day

N/A or NA - Not Applicable NOx - Nitrogen Oxides

NESHAP - National Emission Standards for Hazardous Air Pollutants

NSPS - New Source Performance Standards P - Process Weight Rate in Tons/Hr

PE - Particulate Emissions PM - Particulate Matter

$PM_{10}$ -	Particulate Matter Under 10 Microns
PSD -	Prevention of Significant Deterioration

PTE - Potential To Emit

RACT - Reasonably Available Control Technology

SCC - Source Classification Code

SCF - Standard Cubic Feet

SIC - Standard Industrial Classification

 $SO_2$  - Sulfur Dioxide TPY - Tons Per Year

TSP - Total Suspended Particulate VOC - Volatile Organic Compounds

First Issued: January 1, 1999 Renewed: October 1, 2005 & October 1, 2010

## **APPENDIX F**

## **Permit Modifications**

	1	1	
DATE OF REVISION	TYPE OF REVISION	SECTION NUMBER, CONDITION NUMBER	DESCRIPTION OF REVISION
		SECTION II - 3.5.2.1	Corrected typo in the numerical opacity standard (correct value is 27%, not 25%)
October 26, 2011	Administrative/	SECTION II - 5.2.1 & SECTION II - 5.3.1	Changed requirement for opacity recordkeeping to allow the use of an alternative format to Appendix G, provided that the same information in Appendix G is included
	Millor	SECTION II - 5.4	Included new Condition 5.4 to clarify that opacity readings are not required at night or when no fuel oil is combusted
		Appendix G	Corrected typographical errors & clarified that the recordkeeping format is optional.

First Issued: January 1, 1999 Renewed: October 1, 2005 & October 1, 2010

## APPENDIX G

## **Example Opacity Monitoring Recordkeeping Format**

Turbine TU001 and Duct Heater DU001 - Visual Observations During No. 2 Fuel Oil Combustion

Visual	Units in	Units	Operational	Results of	Results show Compliance with the Following Opacity Requirements: <sup>1</sup>
Observation	Operation	Combusting	Mode	Observation	
<b>Event Date and</b>	•	Fuel Oil			
Time					
	☐ TU001 ☐ DU001	☐ TU001 ☐ DU001	☐ Normal ☐ Startup ☐ Other		<u>During Startup, Building of a New Fire, Cleaning of Fire Boxes, Soot Blowing, Process</u> <u>Modifications or Adjustment/Occasional Cleaning of Control Equipment</u>
			ouici		Reg 1, II.A.4 (Condition 2.5.3) for Turbines – TU001 operational, combusting fuel oil, and opacity less than 30%
					Reg 1, II.A.4 (Condition 3.4.3) for heaters—DU001 operational, combusting fuel oil, and opacity less than 30%
					Reg 6, Part B, II.C.3 (Condition 2.5.1) for Turbines – TU001 operational, combusting fuel oil, Operational mode is <i>not</i> startup and opacity less than 20%
					Reg 6, Part B, II.C.3 (Condition 3.4.1) for Heaters – DU001 is operational, combusting fuel oil, Operational mode is <i>not</i> startup and opacity is less than 20%
					<b>During Activity Not Listed Above</b>
					Reg 1, II.A.1(Condition 2.5.2) for Turbines – TU001 operational, combusting fuel oil, and opacity less than 20%
					Reg 1, II.A.1(Condition 2.5.2) for Heaters – DU001 operational, combusting fuel oil, and opacity less than 20%
					Reg 6, Part B, II.C.3 (Condition2.5.1) for Turbines – TU001 operational, combusting fuel oil, and opacity less than 20%
					Reg 6, Part B, II.C.3(Condition 3.4.1) for Heaters – DU001 operational, combusting fuel oil, and opacity less than 20%
					<u>Duct Heater Only</u>
					Subpart Dc §60.43c(c) (Condition 3.5.1) – DU001 operational, combusting fuel oil, operational mode is <i>not</i> startup, shutdown or malfunction, and opacity less than 20% except one period per hour less than 27%

In absence of credible evidence to the contrary, the results of the monitoring required by Condition 5 are used to demonstrate compliance as described in the referenced conditions

Turbine TU002 and Duct Heater DU002 - Visual Observations During No. 2 Fuel Oil Combustion

Visual	Units in	Units	Operational	Results of	Results show Compliance with the Following Opacity Requirements: <sup>1</sup>
Observation	Operation	Combusting	Mode	Observation	
<b>Event Date and</b>		Fuel Oil			
Time					
Time	☐ TU002 ☐ DU002	☐ TU002 ☐ DU002	☐ Normal ☐ Startup ☐ Other		During Startup, Building of a New Fire, Cleaning of Fire Boxes, Soot Blowing, Process  Modifications or Adjustment/Occasional Cleaning of Control Equipment  ☐ Reg 1, II.A.4 (Condition 2.5.3) for Turbines − TU002 operational, combusting fuel oil, and opacity less than 30%  ☐ Reg 1, II.A.4 (Condition 3.4.3) for heaters− DU002 operational, combusting fuel oil, and opacity less than 30%  ☐ Reg 6, Part B, II.C.3(Condition 2.5.1) for Turbines − TU002 operational, combusting fuel oil, Operational mode is <i>not</i> startup and opacity less than 20%  ☐ Reg 6, Part B, II.C.3(Condition 3.4.1) for Heaters − DU002 is operational, combusting fuel oil, Operational mode is <i>not</i> startup and opacity is less than 20%  During Activity Not Listed Above
					Reg 1, II.A.1(Condition 2.5.2) for Turbines – TU002 operational, combusting fuel oil, and opacity less than 20%
					Reg 1, II.A.1(Condition 2.5.2) for Heaters – DU002 operational, combusting fuel oil, and opacity less than 20%
					Reg 6, Part B, II.C.3 (Condition2.5.1) for Turbines – TU002 operational, combusting fuel oil, and opacity less than 20%
					Reg 6, Part B, II.C.3 (Condition 3.4.1) for Heaters – DU002 operational, combusting fuel oil, and opacity less than 20%
					Duct Heater Only
					Subpart Dc §60.43c(c) (Condition 3.5.1) – DU002 operational, combusting fuel oil, operational mode is <i>not</i> startup, shutdown or malfunction, and opacity less than 20% except one period per hour less than 27%

<sup>1</sup>In absence of credible evidence to the contrary, the results of the monitoring required by Condition 5 are used to demonstrate compliance as described in the referenced conditions

First Issued: January 1, 1999

Renewed: October 1, 2005 & October 1, 2010

Boiler B003 & B004 - Visual Observation During No. 2 Fuel Oil Combustion

Visual	Boiler ID	Operational	Results of	Results show Compliance with the Following Opacity Requirements: <sup>1</sup>
Observation		Mode	Observation	
<b>Event Date and</b>				
Time				
	B003 B004	Normal		During Startup, Building of a New Fire, Cleaning of Fire Boxes, Soot Blowing, Process Modifications or
	□ 5004	Startup Other		Adjustment/Occasional Cleaning of Control Equipment
				Reg 1, II.A.4 (Condition 4.3.2 for Boilers – Boiler B003 and/or B004 operational, combusting fuel oil, and opacity less than 30%
				<b>During Activity Not Listed Above</b>
				Reg 1, II.A.1(Condition 4.3.1) for Boilers – Boiler Boo3 and/or B004 operational, combusting fuel oil, and opacity less than 20%

<sup>&</sup>lt;sup>1</sup>In absence of credible evidence to the contrary, the results of the monitoring required by Condition 5 are used to demonstrate compliance as described in the referenced conditions

First Issued: January 1, 1999 Renewed: October 1, 2005 & October 1, 2010